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TO: My-Chau Tran
Location: REM/2C04/2C18
Art Unit: 1639
Friday, August 11, 2006

Case Serial Number: 10675329

From: Mary Jane Ruhl
Location: Biotech-Chem Library
Remsen 1-A-62
Phone: 571-272-2524

maryjane.ruhl@uspto.gov

Search Notes

Examiner Tran,

Here are the results for your recent search request.

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Thank you for using STIC services. We appreciate the opportunity to serve you.

Sincerely,

Mary Jane Ruhl
Technical Information Specialist
STIC
Remsen 1-A-61
Ext. 22524

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=> d que stat l18

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L7  31379 SEA FILE=HCAPLUS ABB=ON MICROARRAY TECHNOLOGY+ALL
L8  7 SEA FILE=HCAPLUS ABB=ON L7 AND ?SUBARRAY?
L9  242 SEA FILE=HCAPLUS ABB=ON L7 AND (?OPTICAL?(W)?DETECT? OR
    ?MACHINE?(W)?READ?)
L10 248 SEA FILE=HCAPLUS ABB=ON L8 OR L9
L11 75 SEA FILE=HCAPLUS ABB=ON L10 AND (?PROBE? OR ?HAPTEN?)
L12 49 SEA FILE=HCAPLUS ABB=ON L11 AND (?FLUORESC? OR ?ILLUMIN?)
L13 1 SEA FILE=HCAPLUS ABB=ON L12 AND ?VISUAL?(W)?ALIGN?
L14 35 SEA FILE=HCAPLUS ABB=ON L12 AND ?METHOD?
L15 35 SEA FILE=HCAPLUS ABB=ON L13 OR L14
L18 26 SEA FILE=HCAPLUS ABB=ON L15 AND (PRD<20020930 OR PD<20020930)

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=> d ibib abs l18 1-26

L18. ANSWER 1 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:587853 HCAPLUS

DOCUMENT NUMBER: 141:102746

TITLE: Arrays for characterization of biochemical reactions and for the detection of biological samples by removing the bound analytes from the chip for optical measurements

INVENTOR(S): Andresen, Peter; Spiecker, Heinrich; Nielsen, Tim

PATENT ASSIGNEE(S): Andresen, Karin, Germany; Andresen, Volker; Andresen, Martin; Andresen, Kerstin

SOURCE: Ger. Offen., 5 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|------------------|--------------|
| DE 10005844 | A1 | 20040722 | DE 2000-10005844 | 20000210 <-- |
| PRIORITY APPLN. INFO.: | | | DE 2000-10005844 | 20000210 <-- |

AB The invention concerns the **optical detection** of a binding on a biochip and the determination of the strength of the binding between a **fluorescent**-labeled analyte and a **probe** on a chip by removing the analyte after binding from the chip and measuring the **fluorescence** of the analyte in an aqueous solution. The **method** is used for nucleic acid hybridization; sample nucleic acids are removed after hybridization by gradual heating; samples with lower binding strength are removed at lower temperature. Analytes can also be detached from the chip by changing the elec. field around the chip or by altering the pH or ionic strength of the aqueous medium.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18. ANSWER 2 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:912726 HCAPLUS

DOCUMENT NUMBER: 139:361195

TITLE: System and **method** for detection of biological warfare agents using the F1-ATPase biomolecular motor

INVENTOR(S): Chapsky, Lars; Frasch, Wayne D.; Chou, Chia Fu;

Zenhausern, Frederic; Goronkin, Herbert

PATENT ASSIGNEE(S): Motorola, Inc., USA

SOURCE: U.S. Pat. Appl. Publ., 15 pp.

DOCUMENT TYPE: CODEN: USXXCO
 LANGUAGE: Patent
 FAMILY ACC. NUM. COUNT: English
 PATENT INFORMATION: 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|--------------|
| US 2003215844 | A1 | 20031120 | US 2003-365378 | 20030211 <-- |
| US 6989235 | B2 | 20060124 | | |

PRIORITY APPLN. INFO.: US 2002-357163P P 20020213 <--

AB An exemplary system and method of employing DNA hybridization for the detection of bio-agents is disclosed as comprising inter alia a biomol. rotary motor, a capture probe DNA fragment effectively attached to said biomol. motor, a target DNA fragment suitably adapted for hybridization with said capture probe DNA, a signal probe DNA fragment suitably adapted for hybridization with said target DNA and a fluorescent bead attached to said signal probe DNA. Disclosed features and specifications may be variously controlled, adapted or otherwise optionally modified to improve certain device fabrication parameters and/or performance metrics.

REFERENCE COUNT: 4, THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 3 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:571177 HCAPLUS

DOCUMENT NUMBER: 139:114064

TITLE: A microfabricated reaction chamber system for nucleic acid amplification

INVENTOR(S): Karlsen, Frank; Drese, Klaus; Sorensen, Olaf

PATENT ASSIGNEE(S): Norchip A/s, Norway; Allard, Susan Joyce

SOURCE: PCT Int. Appl., 59 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|--------------|
| WO 2003060157 | A2 | 20030724 | WO 2002-GB5945 | 20021230 <-- |
| WO 2003060157 | A3 | 20031224 | | |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

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|------------|----|----------|---------------|----------|
| GB 2383546 | A1 | 20030702 | GB 2001-31061 | 20011228 |
|------------|----|----------|---------------|----------|

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|------------|----|----------|--|--|
| GB 2383546 | B2 | 20060301 | | |
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| AU 2002356341 | A1 | 20030730 | AU 2002-356341 | 20021230 <-- |
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|------------|----|----------|----------------|--------------|
| EP 1458473 | A2 | 20040922 | EP 2002-806348 | 20021230 <-- |
|------------|----|----------|----------------|--------------|

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK

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|---------------|----|----------|----------------|--------------|
| US 2005089863 | A1 | 20050428 | US 2003-498827 | 20021230 <-- |
|---------------|----|----------|----------------|--------------|

PRIORITY APPLN. INFO.: GB 2001-31061 A 20011228 <--

GB 2002-25539 A 20021101
 WO 2002-GB5945 W 20021230

AB The present invention relates to a microfabricated reaction chamber system and a method of fluid transport. The system may be used, for example, in a method of carrying out a nucleic acid sequence amplification and detection process on a nucleic acid sample. The microfabricated chamber system comprises an inlet port and/or an outlet port and a variable volume chamber in fluid communication with said port(s), wherein altering the volume of the variable volume chamber effects and/or restricts flow of a fluid sample to and/or from said port(s).

L18 ANSWER 4 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:510068 HCAPLUS
 DOCUMENT NUMBER: 139:49481
 TITLE: A microfabricated reaction chamber system.
 INVENTOR(S): Karlsten, Frank; Sorensen, Olaf; Drese, Klaus
 PATENT ASSIGNEE(S): Norchip A/S, Norway
 SOURCE: Brit. UK Pat. Appl., 55 pp.
 CODEN: BAXXDU
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|----------------|
| GB 2383546 | A1 | 20030702 | GB 2001-31061 | 20011228 |
| GB 2383546 | B2 | 20060301 | | |
| WO 2003060157 | A2 | 20030724 | WO 2002-GB5945 | 20021230 <-- |
| WO 2003060157 | A3 | 20031224 | | |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| AU 2002356341 | A1 | 20030730 | AU 2002-356341 | 20021230 <-- |
| EP 1458473 | A2 | 20040922 | EP 2002-806348 | 20021230 <-- |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK | | | | |
| US 2005089863 | A1 | 20050428 | US 2003-498827 | 20021230 <-- |
| PRIORITY APPLN. INFO.: | | | | |
| | | | GB 2001-31061 | A 20011228 <-- |
| | | | GB 2002-25539 | A 20021101 |
| | | | WO 2002-GB5945 | W 20021230 |

AB A microfabricated reaction chamber system comprises a variable-volume chamber 27, wherein altering the volume of the chamber affects the flow of a sample. The variable volume chamber may be in fluid communication with an inlet port and/or an outlet port. The variable volume chamber may also be a reaction chamber, and/or may be in fluid communication with a reaction chamber. The microfabricated reaction chamber system may comprise a substrate and an overlying flexible membrane, the variable volume chamber being defined by a recess in a surface of the substrate and the adjacent surface of the flexible membrane. The variable-volume chamber may comprise at least one wall formed from a flexible material, movement of said wall altering the volume of the chamber. The reaction chamber may have a temperature

control device therein. Also claimed is a **method** and apparatus for carrying out a nuclear acid sequence amplification and detection process on a nucleic acid sample. In use, the microfabricated reaction chamber system may be used for carrying out a process on a biol. fluid, a dairy product, environmental fluids and/or drinking water.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 5 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:282832 HCAPLUS

DOCUMENT NUMBER: 138:268027

TITLE: Device for electrophoresis, electrophoresis apparatus, electrophoresis **method**, and test substance detection **method**

INVENTOR(S): Ishimaru, Teruta; Itou, Chiho; Ikeda, Tadanobu; Akita, Takashi; Maehara, Osamu; Miyauchi, Haruko

PATENT ASSIGNEE(S): Mitsubishi Rayon Co., Ltd., Japan

SOURCE: PCT Int. Appl., 41 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|----------------|
| WO 2003029820 | A1 | 20030410 | WO 2002-JP10037 | 20020927 <-- |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| US 2004245103 | A1 | 20041209 | US 2004-490118 | 20040326 <-- |
| PRIORITY APPLN. INFO.: | | | JP 2001-300107 | A 20010928 <-- |
| | | | JP 2001-300108 | A 20010928 <-- |
| | | | WO 2002-JP10037 | W 20020927 <-- |

AB A device for electrophoresis is provided, which is a case possessing a closed space separated by an electrophoresis carrier (capillary array sheet) in its inside, and which is equipped with at least one liquid filling and discharge port communicable with the outside at the outer wall part of the separated closed space. Also provided are an electrophoresis **method** using this device, and a test substance detection **method** using this device. An electrophoresis apparatus is also provided, which possesses a mechanism for holding the electrophoretic carrier by a pair of electrodes, and a space capable of holding liquid between the electrophoretic carrier held and the electrodes. An electrophoresis **method** using this apparatus is also provided. Diagrams describing the device and apparatus assembly are given.

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 6 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:276691 HCAPLUS

DOCUMENT NUMBER: 138:268018

TITLE: Multilayered microfluidic apparatus for nucleic acid amplification using polymerase chain reaction
 INVENTOR(S): Briscoe, Cynthia G.; Yu, Huinan; Grodzinski, Piotr; Marrero, Robert; Burdon, Jeremy W.; Huang, Rong-fong
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S., 17 pp., Cont.-in-part of U.S. Ser. No. 337,086.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 10
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|--------------|
| US 6544734 | B1 | 20030408 | US 1999-460281 | 19991209 <-- |
| US 6592696 | B1 | 20030715 | US 1999-235081 | 19990121 <-- |
| US 6572830 | B1 | 20030603 | US 1999-337086 | 19990621 <-- |
| CA 2393690 | AA | 20010614 | CA 2000-2393690 | 20001211 <-- |
| WO 2001041931 | A2 | 20010614 | WO 2000-US33499 | 20001211 <-- |
| WO 2001041931 | A3 | 20020103 | | |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| AU 2001020827 | A5 | 20010618 | AU 2001-20827 | 20001211 <-- |
| EP 1237655 | A2 | 20020911 | EP 2000-984156 | 20001211 <-- |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR | | | | |
| JP 2003517591 | T2 | 20030527 | JP 2001-543266 | 20001211 <-- |
| US 2003190608 | A1 | 20031009 | US 2001-861171 | 20010517 <-- |
| US 6875619 | B2 | 20050405 | | |
| US 2003129646 | A1 | 20030710 | US 2003-340057 | 20030110 <-- |
| US 6984516 | B2 | 20060110 | | |

PRIORITY APPLN. INFO.:
 US 1998-103701P P 19981009 <--
 US 1999-235081 A2 19990121 <--
 US 1999-337086 A2 19990621 <--
 US 1999-438600 A2 19991112 <--
 US 1999-458534 A 19991209 <--
 US 1999-460281 A 19991209 <--
 US 1999-460283 A 19991209 <--
 US 1999-464490 A2 19991215 <--
 US 1999-466325 A 19991217 <--
 US 2000-492013 A2 20000126 <--
 WO 2000-US33499 W 20001211 <--

AB A multilayered microfluidic DNA anal. system includes a cell lysis chamber, a DNA separation chamber, a DNA amplification chamber, and a DNA detection system. The multilayered microfluidic DNA anal. system is provided as a substantially monolithic structure formed from a plurality of green-sheet layers sintered together. The substantially monolithic structure has defined therein a means for heating the DNA amplification chamber and a means for cooling the DNA amplification chamber. The means for heating and means for cooling operate to cycle the temperature of the DNA amplification chamber as required for performing a DNA amplification process, such as PCR.

REFERENCE COUNT: 168 THERE ARE 168 CITED REFERENCES AVAILABLE FOR

THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L18 ANSWER 7 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:24394 HCAPLUS
DOCUMENT NUMBER: 138:35677
TITLE: Time-resolved **fluorescent** detection
method and apparatus for gene chip
INVENTOR(S): Lu, Zuhong; Zhu, Jijun; Zhang, Tian; Sun, Xiaoru;
Chen, Yang
PATENT ASSIGNEE(S): Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 14 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|--------------|
| ----- | ---- | ----- | ----- | ----- |
| CN 1339610 | A | 20020313 | CN 2001-134009 | 20011009 <-- |
| PRIORITY APPLN. INFO.: | | | CN 2001-134009 | 20011009 <-- |

AB The invention relates to apparatus and **method** for DNA chip. The detection **method** comprises hybridizing **probe** immobilized on DNA chip with rare earth complex conjugate-labeled target mol., washing the chip, and detecting the hybridization signal by the time-resolved fluorimetry. The time-resolved fluorimeter consists of frame work, support platform, transmission gear, **optical detection** unit, and optical signal processing unit. The **optical detection** unit consists of detection light source, light-transmitting element, collimating lens, **fluorescent** lens, dichromic lens, pinhole, filter, and photoelec. receptor.

L18 ANSWER 8 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:849796 HCAPLUS
DOCUMENT NUMBER: 137:322303
TITLE: **Methods** for determining secondary
modifications of molecules using arrays
INVENTOR(S): Gilmore, James; Daniel, Steven; Wiese, Rick
PATENT ASSIGNEE(S): Genometrix Genomics, Inc., USA
SOURCE: PCT Int. Appl., 21 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|--------------|
| ----- | ---- | ----- | ----- | ----- |
| WO 2002088324 | A2 | 20021107 | WO 2002-US14043 | 20020502 <-- |
| WO 2002088324 | A3 | 20030320 | | |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
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GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU,
TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,
CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,

BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
 CA 2446255 AA 20021107 CA 2002-2446255 20020502 <--
 EP 1384068 A2 20040128 EP 2002-729125 20020502 <--
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 JP 2005507491 T2 20050317 JP 2002-585607 20020502 <--
 US 2004152130 A1 20040805 US 2003-476839 20031103 <--
 PRIORITY APPLN. INFO.: US 2001-288285P P 20010502 <--
 WO 2002-US14043 W 20020502 <--

AB The invention provides a **method** for detecting a secondary modification of a target mol. using arrays. Use of microarrays allows for simultaneous anal. and detection of multiple secondary modification characteristics of a sample analyte, e.g., a post-translationally modified polypeptide. The invention provides a **method** for detecting a secondary modification of a target mol. comprising the following steps: (a) providing an array comprising a plurality of biosites, each biosite comprising a plurality of capture **probes** immobilized to the substrate; (b) providing a target mol.; (c) providing a detection **probe** capable of specifically binding to a capture **probe**-bound target mol., wherein the detection **probe** specifically binds to the target **probe**; and, (d) contacting the target mol. with the array and the detection **probe** with the target mol. and detecting which biosite comprises a bound target mol. and detection **probe**, thereby detecting a secondary modification of the target mol.

L18 ANSWER 9 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:794229 HCAPLUS
 DOCUMENT NUMBER: 137:305712
 TITLE: Apparatus and microarray **methods** for parallel processing of microvolume liquid reactions
 O'Keefe, Matthew; Foreman, Pamela K.
 INVENTOR(S):
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 26 pp., Cont.-in-part of U.S. Pat. Appl. 2001 55,765.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-----------------|
| US 2002151040 | A1 | 20021017 | US 2001-935455 | 20010822 <-- |
| US 2001055765 | A1 | 20011227 | US 2001-789899 | 20010220 <-- |
| US 2005148066 | A1 | 20050707 | US 2005-54184 | 20050209 <-- |
| PRIORITY APPLN. INFO.: | | | US 2000-229357P | P 20000218 <-- |
| | | | US 2001-789899 | A2 20010220 <-- |

AB Disclosed herein are apparatuses and **methods** for conducting multiple simultaneous micro-volume chemical and biochem. reactions in an array format. In one embodiment, the format comprises an array of microholes in a substrate. In the microhole sample chamber with the shape of a right circular cylinder or a right polygonal prism, the hydrophobic regions form an annular ring along the wall and define one or more annular non-hydrophobic rings there between for reagent attachment, such as oligonucleotide immobilization. Besides serving as an ordered array of sample chambers allowing the performance of multiple parallel reactions, the arrays can be used for reagent storage and transfer, library display, reagent synthesis, assembly of multiple identical reactions, dilution and desalting. Use of the arrays facilitates optical anal. of reactions, and

allows optical anal. to be conducted in real time. Included within the invention are kits comprising a microhole apparatus and a reaction component of the **method(s)** to be carried out in the apparatus. The use of apparatuses are demonstrated in PCR-mediated anal. of CAG repeat length in the human hSK gene. In addition, gene expression anal. in the tissue(s) of human patients of interest using an RNeasy 96 BioRobot Kit is also described using prepared template mRNA (or total RNA). Microhole PCR with pre-affixed oligonucleotide primers and In-Situ **Fluorescent** Detection for Lambda phage are performed. Mol. haplotyping, such as genotyping a rare single base change in ATM gene introns, is also described.

L18 ANSWER 10 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:736774 HCAPLUS

DOCUMENT NUMBER: 137:258475

TITLE: Homogeneous assay of nucleic acid hybridization by means of multiple measurements under varied conditions

INVENTOR(S): Erikson, Glen H.; Daksis, Jasmine I.; Picard, Pierre

PATENT ASSIGNEE(S): Turks/Caicos I.

SOURCE: U.S. Pat. Appl. Publ., 22 pp., Cont.-in-part of U.S. 6,265,170.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 6

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|-----------------|
| US 2002137056 | A1 | 20020926 | US 2001-911047 | 20010723 <-- |
| US 6265170 | B1 | 20010724 | US 2000-490273 | 20000124 <-- |
| US 6613524 | B1 | 20030902 | US 2001-998155 | 20011129 <-- |
| US 2002123066 | A1 | 20020905 | US 2002-120092 | 20020410 <-- |
| US 6982147 | B2 | 20060103 | | |
| US 2003170659 | A1 | 20030911 | US 2002-189211 | 20020703 <-- |
| CA 2454415 | AA | 20030206 | CA 2002-2454415 | 20020715 <-- |
| WO 2003010506 | A2 | 20030206 | WO 2002-IB2788 | 20020715 <-- |
| WO 2003010506 | A3 | 20040722 | | |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| EP 1461452 | A2 | 20040929 | EP 2002-745718 | 20020715 <-- |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK | | | | |
| BR 2002011350 | A | 20050517 | BR 2002-11350 | 20020715 <-- |
| JP 2005527779 | T2 | 20050915 | JP 2003-515830 | 20020715 <-- |
| CN 1671862 | A | 20050921 | CN 2002-814913 | 20020715 <-- |
| US 2003180790 | A1 | 20030925 | US 2003-437812 | 20030514 <-- |
| ZA 2004001363 | A | 20040827 | ZA 2004-1363 | 20040219 <-- |
| PRIORITY APPLN. INFO.: | | | US 2000-490273 | A2 20000124 <-- |
| | | | US 2001-911047 | A2 20010723 <-- |
| | | | US 2001-998155 | A2 20011129 <-- |
| | | | US 2002-120092 | A2 20020410 <-- |

WO 2002-IB2788

W 20020715 <--

AB A **method** for homogeneously assaying biopolymer bonding, specifically nucleic acid hybridization, includes obtaining signals from a test sample before, during and/or after the application of stimulus to the test sample and correlating the signals. The signals, whose magnitude correlate with binding affinity, can be, for example, elec. conductance and/or **fluorescent** intensity. The stimulus can be, for example, elec. voltage and/or laser radiation. Preferably, different types of signals are measured and compared so as to enhance the reliability of the assay.

L18 ANSWER 11 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:573330 HCAPLUS

DOCUMENT NUMBER: 137:121876

TITLE: Biochips with through-holes

INVENTOR(S): Nagasawa, Hiroshi

PATENT ASSIGNEE(S): Ebara Corporation, Japan

SOURCE: Eur. Pat. Appl., 14 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|----------------|
| EP 1226871 | A2 | 20020731 | EP 2002-1708 | 20020124 <-- |
| EP 1226871 | A3 | 20040121 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR | | | | |
| JP 2002218974 | A2 | 20020806 | JP 2001-16012 | 20010124 <-- |
| US 2002127585 | A1 | 20020912 | US 2002-53869 | 20020124 <-- |
| PRIORITY APPLN. INFO.: | | | JP 2001-16012 | A 20010124 <-- |

AB A reaction **probe** chip comprising a substrate having a plurality of discrete, regularly arranged through-holes; and a carrier filled into and held in the through-holes, the carrier having **probe** mols. fixed thereto such that the **probe** mols. are different according to the through-holes. The carrier having the **probe** mols. fixed thereto is preferably a porous membrane, a nonwoven fabric, or porous glass entangled with or bound to the porous membrane or nonwoven fabric. A reaction product detection system flows a sample, including **fluorescence** labeled DNA to be detected, simultaneously and slowly through a plurality of discrete through-holes regularly arranged in a substrate, thereby binding an analyte to **probe** mols., and detects the analyte by a **fluorescence** detector. The reaction **probe** chip and the detection system based on a convenient **method** for preparing DNA Chip can be used in various diagnoses of physiol. functions, including DNA polymorphism.

L18 ANSWER 12 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:540187 HCAPLUS

DOCUMENT NUMBER: 137:90551

TITLE: Device and **method** for tracking conditions in an assay

INVENTOR(S): Ellson, Richard N.; Mutz, Mitchell W.; Harris, David L.

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 22 pp., Cont.-in-part of U.S. Ser. No. 751,231.

CODEN: USXXCO

DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-----------------|
| US 2002094537 | A1 | 20020718 | US 2001-40925 | 20011228 <-- |
| US 2002086294 | A1 | 20020704 | US 2000-751231 | 20001229 <-- |
| PRIORITY APPLN. INFO.: | | | US 2000-751231 | A2 20001229 <-- |

AB The invention provides a device comprising a substrate having a plurality of different mol. **probes** attached to a surface thereof and an integrated indicator that exhibits a response when exposed to a condition to which the substrate may be exposed. Each different mol. **probe** is selected to interact with a different corresponding target, and the indicator response is detectable after removing the indicator from the condition. Alternatively, a substrate is provided having a plurality of mol. **probes** attached to a surface thereof and a plurality of different integrated indicators. Each indicator is selected to exhibit a response when exposed to one of a plurality of conditions to which the substrate may be exposed. The inventive devices are typically used for biomol., or more specifically, nucleotidic assays. The invention also provides for various apparatuses and **methods** for assaying a sample using the inventive devices.

L18 ANSWER 13 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:522159 HCAPLUS
 DOCUMENT NUMBER: 137:59858
 TITLE: **Method** and apparatus using a surface-selective nonlinear optical technique
 INVENTOR(S): Salafsky, Joshua S.
 PATENT ASSIGNEE(S): USA
 SOURCE: PCT Int. Appl., 88 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|----------------|
| WO 2002054071 | A1 | 20020711 | WO 2001-US22441 | 20010717 <-- |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| CA 2434076 | AA | 20020711 | CA 2001-2434076 | 20010717 <-- |
| EP 1358482 | A1 | 20031105 | EP 2001-954721 | 20010717 <-- |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR | | | | |
| JP 2004530105 | T2 | 20040930 | JP 2002-554718 | 20010717 <-- |
| PRIORITY APPLN. INFO.: | | | US 2001-260261P | P 20010108 <-- |
| | | | US 2001-260300P | P 20010108 <-- |
| | | | US 2001-262214P | P 20010117 <-- |
| | | | WO 2001-US22441 | W 20010717 <-- |

AB A surface-selective nonlinear optical technique, such as second harmonic or sum frequency generation, is used to detect target-**probe** binding reactions or their effects, at an interface, without the use of labels. In addition, the direction of the nonlinear light is scattered from the interface in a well-defined direction and therefore its incidence at a detector some distance from the interface may be easily mapped to a specific and known location at the interface.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 14 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:505290 HCAPLUS

DOCUMENT NUMBER: 137:43881

TITLE: Device and **method** for tracking conditions in an assay

INVENTOR(S): Ellson, Richard N.; Mutz, Mitchell W.; Harris, David L.

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 20 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|--|----------|-----------------|----------------|
| US 2002086294 | A1 | 20020704 | US 2000-751231 | 20001229 <-- |
| WO 2002053777 | A2 | 20020711 | WO 2001-US50764 | 20011228 <-- |
| WO 2002053777 | A3 | 20030227 | | |
| W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW | | | |
| RW: | GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | |
| US 2002094537 | A1 | 20020718 | US 2001-40925 | 20011228 <-- |
| US 2006147977 | A1 | 20060706 | US 2006-361449 | 20060224 <-- |
| PRIORITY APPLN. INFO.: | | | US 2000-751231 | A 20001229 <-- |

AB The invention provides a device comprising a substrate having a plurality of different mol. **probes** attached to a surface thereof and an integrated indicator that exhibits a response when exposed to a condition to which the substrate may be exposed. Each different mol. **probe** is selected to interact with a different corresponding target, and the indicator response is detectable after removing the indicator from the condition. Alternatively, a substrate is provided having a plurality of mol. **probes** attached to a surface thereof and a plurality of different integrated indicators. Each indicator is selected to exhibit a response when exposed to one of a plurality of conditions to which the substrate may be exposed. The inventive devices are typically used for biomol., or more specifically, nucleotidic assays. The invention also provides for various apparatuses and **methods** for assaying a sample using the inventive devices.

L18 ANSWER 15 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:488155 HCAPLUS

DOCUMENT NUMBER: 137:43871

TITLE: Devices and **methods** to form a randomly ordered array of magnetic beads and uses thereof in high-throughput genotyping

INVENTOR(S): Jain, Maneesh; White, Robert L.; Roberts, Lester A.

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 41 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------------|
| US 2002081714 | A1 | 20020627 | US 2001-923752 | 20010807 <-- |
| PRIORITY APPLN. INFO.: | | | US 2000-202357P | P 20000505 <-- |
| | | | US 2000-223125P | P 20000807 <-- |

AB The invention includes devices and **methods** for forming random arrays of magnetic particles, arrays formed using these devices and **methods**, and to **methods** of using the arrays. The invention provides an assembly (chip) with magnetic domains that produce localized magnetic fields capable of immobilizing magnetic particles such as com. available magnetic beads. **Probe** or sensor mols. can be coupled to the beads, which are then dispersed on the assembly, forming a random order array. The arrays can be used for analyzing samples, targets, and/or the interaction between samples and targets. The invention finds particular use in processes such as high-throughput genotyping and other nucleic acid hybridization-based assays. The invention offers a number of significant advantages in comparison with traditional DNA arrays in which **probes** are bound to a substrate.

L18 ANSWER 16 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:314832 HCAPLUS

DOCUMENT NUMBER: 136:321652

TITLE: **Method** and device for the integrated synthesis and analysis of analytes on a support

INVENTOR(S): Staehler, Cord F.; Gueimil, Ramon; Scheffler, Matthias; Staehler, Peer F.; Heidbrede, Anke

PATENT ASSIGNEE(S): Febit A.-G., Germany

SOURCE: PCT Int. Appl., 54 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|------------------|--------------|
| WO 2002032567 | A1 | 20020425 | WO 2001-EP12027 | 20011017 <-- |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| DE 10051396 | A1 | 20020418 | DE 2000-10051396 | 20001017 <-- |
| AU 2002010552 | A5 | 20020429 | AU 2002-10552 | 20011017 <-- |

EP 1330307 A1 20030730 EP 2001-978431 20011017 <--
 EP 1330307 B1 20050907
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 AT 303863 E 20050915 AT 2001-978431 20011017 <--
 US 2004043509 A1 20040304 US 2003-399450 20030801 <--
 PRIORITY APPLN. INFO.: DE 2000-10051396 A 20001017 <--
 US 2000-240793P P 20001017 <--
 WO 2001-EP12027 W 20011017 <--

AB The invention relates to a **method** for producing receptor-coated particles, which comprises: (a) providing a support, (b) guiding a particle-containing liquid into or onto the support, (c) immobilizing the particles on at least one surface of the support, (d) guiding a liquid that contains receptor or receptor components for the synthesis of polymer receptors across the immobilized particles, (e) coupling the receptors or receptor components in corresponding predetd. positions of the support to the immobilized particles in a manner specific with respect to location and/or time, (f) optionally repeating steps (d) and (e) until the desired receptors have been synthesized on the immobilized particles in the corresponding predetd. positions of the support.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 17 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:293884 HCAPLUS
 DOCUMENT NUMBER: 136:320311
 TITLE: Dendritically amplified detection **method**
 INVENTOR(S): Willner, Itamar
 PATENT ASSIGNEE(S): Yisum Research Development Company of the Hebrew University of Jerusalem, Israel; Patolsky, Fernando
 SOURCE: PCT Int. Appl., 30 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|--|----------|-----------------|----------------|
| WO 2002031191 | A2 | 20020418 | WO 2001-IL886 | 20010924 <-- |
| WO 2002031191 | A3 | 20030912 | | |
| W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW | | | |
| RW: | GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | |
| IL 138988 | A1 | 20050925 | IL 2000-138988 | 20001012 |
| CA 2424435 | AA | 20020418 | CA 2001-2424435 | 20010924 <-- |
| AU 2001094150 | A5 | 20020422 | AU 2001-94150 | 20010924 <-- |
| EP 1368490 | A2 | 20031210 | EP 2001-974639 | 20010924 <-- |
| R: | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR | | | |
| JP 2005507488 | T2 | 20050317 | JP 2002-534556 | 20010924 <-- |
| US 2004048272 | A1 | 20040311 | US 2003-381131 | 20030828 <-- |
| PRIORITY APPLN. INFO.: | | | IL 2000-138988 | A 20001012 <-- |

WO 2001-IL886 W 20010924 <--

AB A **method** and system for the detection of a target nucleic acid in a sample solution. The target nucleic acid comprises a first and a second end sequence, one of the end sequences being a 5' end sequence and the other end sequence being a 3' end sequence. The **method** comprises: attaching to a solid surface a first oligonucleotide **probe**, at least a portion of which is complementary to the first end sequence of the target nucleic acid; contacting the solid surface with the sample solution, thereby allowing the first **probe** to bind the target nucleic acid. The present invention provides a second semiconductor nanoparticle to which has been attached a second oligonucleotide **probe**, at least a portion of which is complementary to the second end sequence of the target nucleic acid, contacting the solid surface with the second nanoparticle, thereby allowing the second **probe** to bind the bound target nucleic acid. The invention further provides a nanoparticle to which has been attached the first oligonucleotide **probe** and pre-incubating the first nanoparticle with the target nucleic acid, thereby allowing the first **probe** to bind the target nucleic acid, contacting the solid surface with the pre-incubated first nanoparticle, thereby allowing the target nucleic acid bound to the first **probe** to bind the second **probe** on the second nanoparticle; and detecting the presence of the nanoparticles on the solid surface, thereby detecting the target nucleic acid.

L18 ANSWER 18 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:241276 HCAPLUS

DOCUMENT NUMBER: 136:244001

TITLE: Integrated active flux microfluidic devices and **methods**

INVENTOR(S): Quake, Stephen R.; Chou, Hou-Pu

PATENT ASSIGNEE(S): California Institute of Technology, USA

SOURCE: U.S. Pat. Appl. Publ., 72 pp., Cont.-in-part of U.S. Ser. No. 724,548.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|-----------------|
| US 2002037499 | A1 | 20020328 | US 2001-875438 | 20010605 <-- |
| US 6767706 | B2 | 20040727 | | |
| US 2004248167 | A1 | 20041209 | US 2004-801361 | 20040315 <-- |
| PRIORITY APPLN. INFO.: | | | US 2000-209243P | P 20000605 <-- |
| | | | US 2000-211309P | P 20000613 <-- |
| | | | US 2000-249360P | P 20001116 <-- |
| | | | US 2000-724548 | A2 20001128 <-- |
| | | | US 2001-875438 | A1 20010605 <-- |

AB The invention relates to a microfabricated device for the rapid detection of DNA, proteins or other mols. associated with a particular disease. The devices and **methods** of the invention can be used for the simultaneous diagnosis of multiple diseases by detecting mols. (e.g. amts. of mols.), such as polynucleotides (e.g., DNA) or proteins (e.g., antibodies), by measuring the signal of a detectable reporter associated with hybridized polynucleotides or antigen/antibody complex. In the microfabricated device according to the invention, detection of the presence of mols. (i.e., polynucleotides, proteins, or antigen/antibody complexes) are correlated to a hybridization signal from an

optically-detectable (e.g. fluorescent)

reporter associated with the bound mols. These hybridization signals can be detected by any suitable means, for example optical, and can be stored for example in a computer as a representation of the presence of a particular gene. Hybridization **probes** can be immobilized on a substrate that forms part of or is exposed to a channel or channels of the device that form a closed loop, for circulation of sample to actively contact complementary **probes**. Universal chips according to the invention can be fabricated not only with DNA but also with other mols. such as RNA, proteins, peptide nucleic acid (PNA) and polyamide mols.

REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 19 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:220845 HCAPLUS

DOCUMENT NUMBER: 136:259532

TITLE: Target activated nucleic acid biosensor and **methods** of using same

INVENTOR(S): Stanton, Marty; Epstein, David; Hamaguchi, Nobuko

PATENT ASSIGNEE(S): Archemix Corporation, USA

SOURCE: PCT Int. Appl., 144 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|--|----------|-----------------|----------------|
| WO 2002022882 | A2 | 20020321 | WO 2001-US28835 | 20010913 <-- |
| WO 2002022882 | A3 | 20030821 | | |
| W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW | | | |
| RW: | GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | |
| CA 2418724 | AA | 20020321 | CA 2001-2418724 | 20010913 <-- |
| AU 2001090965 | A5 | 20020326 | AU 2001-90965 | 20010913 <-- |
| EP 1354062 | A2 | 20031022 | EP 2001-971029 | 20010913 <-- |
| R: | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR | | | |
| JP 2004527220 | T2 | 20040909 | JP 2002-527322 | 20010913 <-- |
| PRIORITY APPLN. INFO.: | | | US 2000-232454P | P 20000913 <-- |
| | | | WO 2001-US28835 | W 20010913 <-- |

AB The invention concerns **methods** for engineering a target activated biosensor are provided. Biosensors comprise a plurality of nucleic acid sensor mols. labeled with a first signaling moiety and a second signaling moiety. The nucleic acid sensor mols. recognizes target mols. which do not naturally bind to DNA. Binding of a target mol. to the sensor mols. triggers a change in the proximity of the signaling moieties which leads to a change in the optical properties of the nucleic acid sensor mols. on the biosensor. Reagents and systems for performing the **method** are also provided. The **method** is useful in diagnostic applications and drug optimization. Diagrams describing the apparatus assembly and operation are given.

L18 ANSWER 20 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2002:220455 HCAPLUS
 DOCUMENT NUMBER: 136:243980
 TITLE: Microfabricated reaction chamber system for real time
 nucleic acid amplification
 INVENTOR(S): Karlsen, Frank
 PATENT ASSIGNEE(S): Norchip A/S, Norway; Allard, Susan Joyce
 SOURCE: PCT Int. Appl., 57 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|----------------|
| WO 2002022265 | A1 | 20020321 | WO 2001-GB4145 | 20010917 <-- |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| GB 2368809 | A1 | 20020515 | GB 2000-22754 | 20000915 <-- |
| GB 2368809 | B2 | 20040929 | | |
| AU 2001087870 | A5 | 20020326 | AU 2001-87870 | 20010917 <-- |
| EP 1317320 | A1 | 20030611 | EP 2001-967495 | 20010917 <-- |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR | | | | |
| US 2004053268 | A1 | 20040318 | US 2003-363852 | 20031006 <-- |
| PRIORITY APPLN. INFO.: | | | GB 2000-22754 | A 20000915 <-- |
| | | | WO 2001-GB4145 | W 20010917 <-- |

AB The invention concern a microfabricated reaction chamber system for carrying out a nucleic acid sequence amplification and detection process on a nucleic acid sample, the process comprising at least first and second process steps using first and second reagents, the device comprising: an inlet port; a first reaction chamber in communication with the inlet port, for carrying out the first process step; a second reaction chamber in communication with the first reaction chamber, for carrying out the second process step; and an outlet port in communication with the second reaction chamber. Diagrams describing the apparatus assembly and operation are given.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 21 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2002:142981 HCAPLUS
 DOCUMENT NUMBER: 136:163688
 TITLE: Microarray detector and synthesizer
 INVENTOR(S): Sandstrom, Perry
 PATENT ASSIGNEE(S): Able Signal Company, LLC, USA
 SOURCE: PCT Int. Appl., 77 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|----------------|
| WO 2002014838 | A2 | 20020221 | WO 2001-US41698 | 20010814 <-- |
| WO 2002014838 | A3 | 20020606 | | |
| WO 2002014838 | C1 | 20020718 | | |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| US 6567163 | B1 | 20030520 | US 2000-640617 | 20000817 |
| US 6545758 | B1 | 20030408 | US 2000-679858 | 20001005 <-- |
| AU 2001087180 | A5 | 20020225 | AU 2001-87180 | 20010814 <-- |
| EP 1311828 | A2 | 20030521 | EP 2001-966691 | 20010814 <-- |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR | | | | |
| PRIORITY APPLN. INFO.: | | | US 2000-640617 | A 20000817 <-- |
| | | | US 2000-679858 | A 20001005 <-- |
| | | | WO 2001-US41698 | W 20010814 <-- |

AB The present invention relates to novel systems, devices, and **methods** comprising spatial light modulators for use in the reading and synthesis of microarrays. For example, the present invention provides micromirror systems for synthesizing and acquiring data from nucleic acid microarrays and systems for collecting, processing, and analyzing data obtained from a microarray.

L18 ANSWER 22 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:904597 HCAPLUS

DOCUMENT NUMBER: 136:17684

TITLE: Integrated active flux microfluidic devices and **methods**

INVENTOR(S): Quake, Stephen R.; Chou, Hou-pu

PATENT ASSIGNEE(S): California Institute of Technology, USA

SOURCE: PCT Int. Appl., 177 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|--------------|
| WO 2001094635 | A2 | 20011213 | WO 2001-US18400 | 20010605 <-- |
| WO 2001094635 | C2 | 20020808 | | |
| WO 2001094635 | A3 | 20021031 | | |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, EC, EE, ES, FI, GB, GD, GE, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| EP 1290226 | A2 | 20030312 | EP 2001-942042 | 20010605 <-- |

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

JP 2003536058 T2 20031202 JP 2002-502175 20010605 <--
PRIORITY APPLN. INFO.: US 2000-209243P P 20000605 <--
US 2000-211309P P 20000613 <--
US 2000-249360P P 20001116 <--
US 2000-724548 A2 20001128 <--
WO 2001-US18400 W 20010605 <--

AB The invention relates to a microfabricated device for the rapid detection of DNA, proteins or other mols. associated with a particular disease. The devices and **methods** of the invention can be used for the simultaneous diagnosis of multiple diseases by detecting mols. (e.g. amts. of mols.), such as polynucleotides (e.g., DNA) or proteins (e.g., antibodies), by measuring the signal of a detectable reporter associated with hybridized polynucleotides or antigen/antibody complex. In the microfabricated device according to the invention, detection of the presence of mols. (i.e., polynucleotides, proteins, or antigen/antibody complexes) are correlated to a hybridization signal from an **optically-detectable** (e.g. **fluorescent**) reporter associated with the bound mols. These hybridization signals can be detected by any suitable means, for example optical, and can be stored for example in a computer as a representation of the presence of a particular gene. Hybridization **probes** can be immobilized on a substrate that forms part of or is exposed to a channel or channels of the device that form a closed loop, for circulation of sample to actively contact complementary **probes**. Universal chips according to the invention can be fabricated not only with DNA but also with other mols. such as RNA, proteins, peptide nucleic acid (PNA) and polyamide mols.

L18 ANSWER 23 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:816981 HCAPLUS
DOCUMENT NUMBER: 135:341205
TITLE: Colloid compositions for solid phase biomolecular analytical, preparative and identification systems
INVENTOR(S): Audeh, Zuheir L.; Fici, Dolores A.; McCormick, William
PATENT ASSIGNEE(S): The Center for Blood Research, Inc., USA
SOURCE: PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|--|----------|-----------------|--------------|
| WO 2001083825 | A2 | 20011108 | WO 2001-US14373 | 20010504 <-- |
| WO 2001083825 | A3 | 20030306 | | |
| W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | |
| RW: | GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | |
| CA 2408094 | AA | 20011108 | CA 2001-2408094 | 20010504 <-- |
| AU 2001059455 | A5 | 20011112 | AU 2001-59455 | 20010504 <-- |
| US 2002015958 | A1 | 20020207 | US 2001-848777 | 20010504 <-- |
| US 6921637 | B2 | 20050726 | | |

EP 1307743 A2 20030507 EP 2001-932980 20010504 <--
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 JP 2003532091 T2 20031028 JP 2001-580432 20010504 <--
 US 2005142666 A1 20050630 US 2005-71674 20050303 <--
 PRIORITY APPLN. INFO.: US 2000-201908P P 20000504 <--
 US 2001-848777 A3 20010504 <--
 WO 2001-US14373 W 20010504 <--

AB A liquid composition comprising a colloidal suspension of a biomol.-binding matrix material (preferably nitrocellulose) dispersed in a liquid, with particles of the matrix material being of a defined particle size, and replicate copies of a biomol., e.g., protein or nucleic acid **probes**, which are distributed, preferably uniformly, throughout the colloidal suspension and are bound to the matrix material particles, is disclosed. The liquid composition of the invention can be used directly for sample anal. or preparation of biomols., or aliquots of the composition can be spotted onto a support to form a microporous matrix system or microarray for anal. or preparation of biomols. Compsns. and microarrays according to the invention are useful in any type of anal. or preparative procedure relating to biomols. They are particularly useful, e.g., in **methods** for detecting a biomol. analyte in a liquid sample, **methods** for determining the presence of a particular nucleic acid sequence within a liquid sample and **methods** for determining the presence of a drug candidate mol. in a liquid sample. The invention further comprises kits for practicing the various **methods** of the invention. Nitrocellulose colloidal suspensions were used to prepare DNA and protein microarrays for HLA typing and for determining specific antibodies to disease antigens, resp.

L18 ANSWER 24 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:816969 HCAPLUS
 DOCUMENT NUMBER: 135:353723
 TITLE: Identification of microsatellite marker or single nucleotide polymorphism by DNA array
 INVENTOR(S): Hager, Joerg; Gut, Ivo Glynne
 PATENT ASSIGNEE(S): Centre National De La Recherche Scientifique, Fr.; Institut National De La Sante Et De La Recherche Medicale
 SOURCE: PCT Int. Appl., 28 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|--|----------|-----------------|--------------|
| WO 2001083813 | A1 | 20011108 | WO 2001-EP4871 | 20010430 <-- |
| W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | |
| RW: | GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | |
| CA 2407731 | AA | 20011108 | CA 2001-2407731 | 20010430 <-- |
| EP 1278894 | A1 | 20030129 | EP 2001-973783 | 20010430 <-- |
| R: | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, | | | |

IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 US 2004014056 A1 20040122 US 2003-258867 20030110 <--
 PRIORITY APPLN. INFO.: EP 2000-401202 A 20000502 <--
 WO 2001-EP4871 W 20010430 <--

AB The present invention relates to a **method** for the identification of the presence of a genetic marker in a DNA sample, in particular by using an oligonucleotide array. In particular, the **method** according to the invention allows for the identification and/or localization of gene(s) associated with a distinguishable phenotype. The complexity of the sample can be reduced e.g. by the **method** of genome mismatch scanning.

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 25 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:360267 HCAPLUS
 DOCUMENT NUMBER: 134:363631
 TITLE: Apparatus and **method** for calibration of a microarray scanning system
 INVENTOR(S): Noblett, David
 PATENT ASSIGNEE(S): GSI Lumonics, Inc., USA
 SOURCE: PCT Int. Appl., 21 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|----------------|
| WO 2001035074 | A1 | 20010517 | WO 2000-US41170 | 20001012 <-- |
| WO 2001035074 | C2 | 20020801 | | |
| W: CA, JP | | | | |
| RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| US 6471916 | B1 | 20021029 | US 1999-437039 | 19991109 |
| CA 2390651 | AA | 20010517 | CA 2000-2390651 | 20001012 <-- |
| EP 1228354 | A1 | 20020807 | EP 2000-989657 | 20001012 <-- |
| EP 1228354 | B1 | 20060104 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL | | | | |
| AT 315222 | E | 20060215 | AT 2000-989657 | 20001012 <-- |
| PRIORITY APPLN. INFO.: | | | US 1999-437039 | A 19991109 <-- |
| | | | WO 2000-US41170 | W 20001012 <-- |

AB A microarray scanning system for conducting microarray expts. on a planar substrate includes an excitation radiation source, a detection system, and a computational device, the planar substrate supporting a plurality of dilution marks containing a fluorophore and located on the substrate surface at predetd. distances from a fiducial reference mark and/or a microarray. Automatic calibration adjustment of either or both the detection system and the excitation radiation source is achieved via the computational device by irradiating the dilution spots, detecting emission radiation produced by the dilution spot fluorophore material, deriving a series of brightness readings from the levels of emission radiation detected at corresponding dilution spots; analyzing the brightness readings to obtain a fluorophore brightness characteristic as a function of concentration; and adjusting the sensitivity of the detection system and/or the intensity level of the source of excitation radiation in accordance with the fluorophore brightness characteristic.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 26 OF 26 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:110657 HCAPLUS

DOCUMENT NUMBER: 135:206022

TITLE: Portable system for microbial sample preparation and oligonucleotide microarray analysis

AUTHOR(S): Bavykin, Sergei G.; Akowski, James P.; Zakhariev, Vladimir M.; Barsky, Viktor E.; Perov, Alexander N.; Mirzabekov, Andrei D.

CORPORATE SOURCE: BioChip Technology Center, Argonne National Laboratory, Argonne, IL, 60439, USA

SOURCE: Applied and Environmental Microbiology (2001), 67(2), 922-928

CODEN: AEMIDF; ISSN: 0099-2240

PUBLISHER: American Society for Microbiology

DOCUMENT TYPE: Journal

LANGUAGE: English

AB We have developed a three-component system for microbial identification that consists of (i) a universal syringe-operated silica minicolumn for successive DNA and RNA isolation, fractionation, fragmentation, **fluorescent** labeling, and removal of excess free label and short oligonucleotides; (ii) microarrays of immobilized oligonucleotide **probes** for 16S rRNA identification; and (iii) a portable battery-powered device for imaging the hybridization of **fluorescently** labeled RNA fragments with the arrays. The minicolumn combines a guanidine thiocyanate **method** of nucleic acid isolation with a newly developed hydroxyl radical-based technique for DNA and RNA labeling and fragmentation. DNA and RNA can also be fractionated through differential binding of double- and single-stranded forms of nucleic acids to the silica. The procedure involves sequential washing of the column with different solns. No vacuum filtration steps, phenol extraction, or centrifugation is required. After hybridization, the overall **fluorescence** pattern is captured as a digital image or as a Polaroid photo. This three-component system was used to discriminate *Escherichia coli*, *Bacillus subtilis*, *Bacillus thuringiensis*, and human HL60 cells. The procedure is rapid: beginning with whole cells, it takes approx. 25 min to obtain labeled DNA and RNA samples and an addnl. 25 min to hybridize and acquire the microarray image using a stationary image anal. system or the portable imager.

REFERENCE COUNT: 61 THERE ARE 61 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d que stat l17

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L7      31379 SEA FILE=HCAPLUS ABB=ON MICROARRAY TECHNOLOGY+ALL
L8      7 SEA FILE=HCAPLUS ABB=ON L7 AND ?SUBARRAY?
L9      242 SEA FILE=HCAPLUS ABB=ON L7 AND (?OPTICAL?(W)?DETECT? OR
      ?MACHINE?(W)?READ?)
L10     248 SEA FILE=HCAPLUS ABB=ON L8 OR L9
L11     75 SEA FILE=HCAPLUS ABB=ON L10 AND (?PROBE? OR ?HAPTEN?)
L12     49 SEA FILE=HCAPLUS ABB=ON L11 AND (?FLUORESC? OR ?ILLUMIN?)
L13     1 SEA FILE=HCAPLUS ABB=ON L12 AND ?VISUAL?(W)?ALIGN?
L14     35 SEA FILE=HCAPLUS ABB=ON L12 AND ?METHOD?
L15     35 SEA FILE=HCAPLUS ABB=ON L13 OR L14
L16     2 SEA L15
L17     1 DUP REMOV L16 (1 DUPLICATE REMOVED)

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=> d ibib abs l17 1-1

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L17 ANSWER 1 OF 1 MEDLINE on STN DUPLICATE 1
ACCESSION NUMBER: 2000295343 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10833327
TITLE: Positional cloning utilizing genomic DNA microarrays: the
AUTHOR: Niemann-Pick type C gene as a model system.
        Stephan D A; Chen Y; Jiang Y; Malechek L; Gu J Z; Robbins C
        M; Bittner M L; Morris J A; Carstea E; Meltzer P S; Adler
        K; Garlick R; Trent J M; Ashlock M A
CORPORATE SOURCE: Cancer Genetics Branch, National Human Genome Research
SOURCE: Institute, Bethesda, MD 20892, USA.. dstephan@nhgri.nih.gov
        Molecular genetics and metabolism, (2000 May) Vol. 70, No.
        1, pp. 10-8.
        Journal code: 9805456. ISSN: 1096-7192.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200007
ENTRY DATE: Entered STN: 28 Jul 2000
        Last Updated on STN: 28 Jul 2000
        Entered Medline: 19 Jul 2000

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AB A major obstacle in positional cloning is identifying the specific mutated gene from within a large physical contig. Here we describe the application of DNA **microarray technology** to a defined genomic region (physical map) to identify: (i) exons without a priori sequence data and (ii) the disease gene based on differential gene expression in a recessive disorder. The feasibility was tested using resources from the positional cloning of the Neimann-Pick Type C (NP-C) disease gene, NPC1. To identify NPC1 exons and optimize the technology, an array was generated from genomic fragments of the 110-kb bacterial artificial chromosome, 108N2, which encodes NPC1. First, as a test case for blindly identifying exons, **fluorescently** labeled NPC1 cDNA identified 108N2 fragments that contained NPC1 exons, many of which also contained intronic sequences and could be used to determine part of the NPC1 genomic structure. Second, to demonstrate that the NPC1 disease gene could be identified based upon differential gene expression, **subarrays** of 108N2 fragments were hybridized with **fluorescently** labeled cDNA **probes** generated from total RNA from hamster cell lines differentially expressing NPC1. A **probe** derived from the NP-C cell line CT60 did not detect NPC1 exons or other genomic fragments from 108N2. In contrast, several NPC1 exons were detected by a **probe** generated from the non-NP-C cell line 911D5A13, which was derived from CT60, and expressed NPC1 as a consequence of stable transduction with a YAC that contains NPC1 and

encompasses 108N2. Thus, the array technology identified NPC1 as a candidate gene based on a physical contig and differential NPC1 expression between NP-C and non-NP-C cells. This technique should facilitate gene identification when a physical contig exists for a region of interest and mutations result in changes in the mRNA level of the disease gene or portions thereof.

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=> d que stat 124

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L7      31379 SEA FILE=HCAPLUS ABB=ON  MICROARRAY TECHNOLOGY+ALL
L8      7 SEA FILE=HCAPLUS ABB=ON  L7 AND ?SUBARRAY?
L9      242 SEA FILE=HCAPLUS ABB=ON  L7 AND (?OPTICAL?(W)?DETECT? OR
      ?MACHINE?(W)?READ?)
L10     248 SEA FILE=HCAPLUS ABB=ON  L8 OR L9
L11     75 SEA FILE=HCAPLUS ABB=ON  L10 AND (?PROBE? OR ?HAPTEN?)
L12     49 SEA FILE=HCAPLUS ABB=ON  L11 AND (?FLUORESC? OR ?ILLUMIN?)
L13     1 SEA FILE=HCAPLUS ABB=ON  L12 AND ?VISUAL?(W)?ALIGN?
L14     35 SEA FILE=HCAPLUS ABB=ON  L12 AND ?METHOD?
L15     35 SEA FILE=HCAPLUS ABB=ON  L13 OR L14
L19     95 SEA FILE=USPATFULL ABB=ON  L15 AND (PRD<20020930 OR PD<20020930
      )
L20     3 SEA FILE=USPATFULL ABB=ON  L19 AND ?VISUAL?(3A)?ALIGN?
L22     44 SEA FILE=USPATFULL ABB=ON  L19 AND ?BIOTINYLAT?
L23     46 SEA FILE=USPATFULL ABB=ON  L20 OR L22
L24     20 SEA FILE=USPATFULL ABB=ON  L23 AND ?LIGHT?(W)?SCATTER?

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=> d ibib abs 124 1-20

L24 ANSWER 1 OF 20 USPATFULL on STN

ACCESSION NUMBER: 2006:145963 USPATFULL

TITLE: **Methods** of screening agents for activity using teleosts

INVENTOR(S): Serbedzija, George N., Woburn, MA, UNITED STATES
Semino, Carlos, Cambridge, MA, UNITED STATES
Frost, Deanna M., Seattle, WA, UNITED STATES

PATENT ASSIGNEE(S): Phylonix Pharmaceuticals, Inc., Cambridge, MA, UNITED STATES (U.S. corporation)

| | NUMBER | KIND | DATE |
|-----------------------|--|------|---------------|
| PATENT INFORMATION: | US 2006123487 | A1 | 20060608 |
| APPLICATION INFO.: | US 2005-320251 | A1 | 20051227 (11) |
| RELATED APPLN. INFO.: | Continuation of Ser. No. US 2005-114712, filed on 25 Apr 2005, PENDING Continuation of Ser. No. US 2003-678765, filed on 2 Oct 2003, PENDING Continuation of Ser. No. US 2000-645432, filed on 23 Aug 2000, GRANTED, Pat. No. US 6656449 Continuation-in-part of Ser. No. US 1999-255397, filed on 22 Feb 1999, GRANTED, Pat. No. US 6299858 | | |

| | NUMBER | DATE |
|-----------------------|--|---------------|
| PRIORITY INFORMATION: | US 1998-75783P | 19980223 (60) |
| | US 1998-100950P | 19980918 (60) |
| DOCUMENT TYPE: | Utility | |
| FILE SEGMENT: | APPLICATION | |
| LEGAL REPRESENTATIVE: | TOWNSEND AND TOWNSEND AND CREW, LLP, TWO EMBARCADERO CENTER, EIGHTH FLOOR, SAN FRANCISCO, CA, 94111-3834, US | |
| NUMBER OF CLAIMS: | 14 | |
| EXEMPLARY CLAIM: | 1-29 | |
| NUMBER OF DRAWINGS: | 19 Drawing Page(s) | |
| LINE COUNT: | 4057 | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides **methods** of screening an agent for activity using teleosts. **Methods** of screening an agent for angiogenesis activity, toxic activity and an effect cell death activity in teleosts are provided. The invention further provides high throughput **methods** of screening agents in multi-well plates.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L24 ANSWER 2 OF 20 USPATFULL on STN

ACCESSION NUMBER: 2006:40622 USPATFULL

TITLE: Unique recognition sequences and **methods** of use thereof in protein analysis

INVENTOR(S): Lee, Frank D., Chestnut Hill, MA, UNITED STATES
Meng, Xun, Shanghai, CHINA
Chan, John W., Research Triangle Park, NC, UNITED STATES
Zhang, Shengsheng, Framingham, MA, UNITED STATES
Benkovic, Stephen J., State College, PA, UNITED STATES
PATENT ASSIGNEE(S): EPITOME BIOSYSTEMS INC., Waltham, MA, UNITED STATES
(U.S. corporation)

| | NUMBER | KIND | DATE |
|-----------------------|--|------|---------------|
| PATENT INFORMATION: | US 2006035270 | A1 | 20060216 |
| APPLICATION INFO.: | US 2005-249847 | A1 | 20051013 (11) |
| RELATED APPLN. INFO.: | Division of Ser. No. US 2003-436549, filed on 12 May 2003, PENDING | | |

| | NUMBER | DATE | |
|-----------------------|-----------------|---------------|-----|
| PRIORITY INFORMATION: | US 2002-379626P | 20020510 (60) | <-- |
| | US 2002-393197P | 20020701 (60) | <-- |
| | US 2002-393233P | 20020701 (60) | <-- |
| | US 2002-393235P | 20020701 (60) | <-- |
| | US 2002-393211P | 20020701 (60) | <-- |
| | US 2002-393223P | 20020701 (60) | <-- |
| | US 2002-393280P | 20020701 (60) | <-- |
| | US 2002-393137P | 20020701 (60) | <-- |
| | US 2002-430948P | 20021204 (60) | |
| | US 2002-433319P | 20021213 (60) | |

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: FISH & NEAVE IP GROUP, ROPES & GRAY LLP, ONE INTERNATIONAL PLACE, BOSTON, MA, 02110-2624, US
NUMBER OF CLAIMS: 26
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 5 Drawing Page(s)
LINE COUNT: 5587

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Disclosed are **methods** for reliably detecting the presence of proteins in a sample by the use of capture agents that recognize and interact with recognition sequences uniquely characteristic of a set of proteins in the sample. Arrays comprising these capture agents are also provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L24 ANSWER 3 OF 20 USPATFULL on STN

ACCESSION NUMBER: 2006:28014 USPATFULL

TITLE: Multiplex analysis using membrane-bound sensitizers

INVENTOR(S): Singh, Sharat, San Jose, CA, UNITED STATES
Chan-Hui, Po-Ying, Oakland, CA, UNITED STATES
Kirakossian, Hrair, San Jose, CA, UNITED STATES

| NUMBER | KIND | DATE |
|--------|------|------|
|--------|------|------|

PATENT INFORMATION: US 2006024846 A1 20060202
APPLICATION INFO.: US 2005-214234 A1 20050827 (11)
RELATED APPLN. INFO.: Division of Ser. No. US 2003-379965, filed on 4 Mar
2003, GRANTED, Pat. No. US 6949347

| | NUMBER | DATE | |
|--|--|---------------|-----|
| ----- | | | |
| PRIORITY INFORMATION: | US 2002-361975P | 20020305 (60) | <-- |
| | US 2003-440838P | 20030117 (60) | |
| DOCUMENT TYPE: | Utility | | |
| FILE SEGMENT: | APPLICATION | | |
| LEGAL REPRESENTATIVE: | MACEVICZ, STEPHEN C., 345 OYSTER POINT BLVD, SOUTH SAN FRANSISCO, CA, 94080, US | | |
| NUMBER OF CLAIMS: | 9 | | |
| EXEMPLARY CLAIM: | 1-12 | | |
| NUMBER OF DRAWINGS: | 50 Drawing Page(s) | | |
| LINE COUNT: | 3017 | | |
| CAS INDEXING IS AVAILABLE FOR THIS PATENT. | | | |

AB The present invention is directed to **methods** and compositions for determining the presence, absence, and/or amounts of one or more membrane-associated analytes in a sample. In accordance with the invention, binding compounds derivatized with releasable molecular tags specifically bind to selected membrane-associated analytes, after which the molecular tags are released upon activation of cleavage moieties, or sensitizers, anchored in the same membrane as the membrane-associated analytes. The released molecular tags are then identified by their distinct separation and detection characteristics.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L24 ANSWER 4 OF 20 USPATFULL on STN

ACCESSION NUMBER: 2006:15830 USPATFULL
TITLE: Proteome epitope tags and **methods** of use
thereof in protein modification analysis
INVENTOR(S): Benkovic, Stephen J., State College, PA, UNITED STATES
Chan, John W., Research Triangle Park, NC, UNITED STATES
Lee, Frank D., Chestnut Hill, MA, UNITED STATES
Meng, Xun, Newton, MA, UNITED STATES
Gordon, Neal, Lexington, MA, UNITED STATES
PATENT ASSIGNEE(S): Epitome Biosystems, Inc., Waltham, MA, UNITED STATES
(U.S. corporation)

| | NUMBER | KIND | DATE | |
|-----------------------|---|---------------|---------------|--|
| ----- | | | | |
| PATENT INFORMATION: | US 2006014212 | A1 | 20060119 | |
| APPLICATION INFO.: | US 2005-66967 | A1 | 20050225 (11) | |
| RELATED APPLN. INFO.: | Continuation-in-part of Ser. No. US 2004-773032, filed on 5 Feb 2004, PENDING Continuation-in-part of Ser. No. US 2003-712425, filed on 13 Nov 2003, PENDING Continuation-in-part of Ser. No. US 2003-436549, filed on 12 May 2003, PENDING | | | |
| | NUMBER | DATE | | |
| ----- | | | | |
| PRIORITY INFORMATION: | US 2002-379626P | 20020510 (60) | <-- | |
| | US 2002-393197P | 20020701 (60) | <-- | |
| | US 2002-393233P | 20020701 (60) | <-- | |
| | US 2002-393235P | 20020701 (60) | <-- | |

US 2002-393211P 20020701 (60) <--
 US 2002-393223P 20020701 (60) <--
 US 2002-393280P 20020701 (60) <--
 US 2002-393137P 20020701 (60) <--
 US 2002-430948P 20021204 (60)
 US 2002-433319P 20021213 (60)

DOCUMENT TYPE: Utility
 FILE SEGMENT: APPLICATION
 LEGAL REPRESENTATIVE: FISH & NEAVE IP GROUP, ROPES & GRAY LLP, ONE
 INTERNATIONAL PLACE, BOSTON, MA, 02110-2624, US
 NUMBER OF CLAIMS: 23
 EXEMPLARY CLAIM: 1
 NUMBER OF DRAWINGS: 38 Drawing Page(s)
 LINE COUNT: 7086

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Disclosed are reagents and **methods** for reliably detecting the presence and measuring the amount of proteins, including proteins with various post-translational modifications (phosphorylation, glycosylation, methylation, acetylation, etc.) in a sample by the use of one or more capture agents that recognize and interact with recognition sequences uniquely characteristic of a protein or a set of proteins (Proteome Epitope Tags, or PETs) in the sample. Arrays comprising these capture agents or PETs are also provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L24 ANSWER 5 OF 20 USPATFULL on STN

ACCESSION NUMBER: 2005:216746 USPATFULL

TITLE: **Methods** of screening agents for activity using teleosts

INVENTOR(S): Serbedzija, George N., Woburn, MA, UNITED STATES
 Semino, Carlos, Cambridge, MA, UNITED STATES
 Frost, Deanna M., Seattle, WA, UNITED STATES

PATENT ASSIGNEE(S): Phylonix Pharmaceuticals, Inc., Cambridge, MA, UNITED STATES (U.S. corporation)

| | NUMBER | KIND | DATE |
|-----------------------|---|------|---------------|
| PATENT INFORMATION: | US 2005188426 | A1 | 20050825 |
| APPLICATION INFO.: | US 2005-114712 | A1 | 20050425 (11) |
| RELATED APPLN. INFO.: | Continuation of Ser. No. US 2003-678765, filed on 2 Oct 2003, PENDING Continuation of Ser. No. US 2000-645432, filed on 23 Aug 2000, GRANTED, Pat. No. US 6656449 Continuation-in-part of Ser. No. US 1999-255397, filed on 22 Feb 1999, GRANTED, Pat. No. US 6299858 | | |

| | NUMBER | DATE |
|-----------------------|--|---------------|
| PRIORITY INFORMATION: | US 1998-100950P | 19980918 (60) |
| | US 1998-75783P | 19980223 (60) |
| DOCUMENT TYPE: | Utility | |
| FILE SEGMENT: | APPLICATION | |
| LEGAL REPRESENTATIVE: | TOWNSEND AND TOWNSEND AND CREW, LLP, TWO EMBARCADERO CENTER, EIGHTH FLOOR, SAN FRANCISCO, CA, 94111-3834, US | |
| NUMBER OF CLAIMS: | 33 | |
| EXEMPLARY CLAIM: | 1 | |
| NUMBER OF DRAWINGS: | 19 Drawing Page(s) | |
| LINE COUNT: | 4101 | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides **methods** of screening an agent

for activity using teleosts. **Methods** of screening an agent for angiogenesis activity, toxic activity and an effect cell death activity in teleosts are provided. The invention further provides high throughput **methods** of screening agents in multi-well plates.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L24 ANSWER 6 OF 20 USPATFULL on STN

ACCESSION NUMBER: 2005:189352 USPATFULL

TITLE: **Method** and system for rapid biomolecular recognition of amino acids and protein sequencing

INVENTOR(S): Shipwash, Edward, Berkeley, CA, UNITED STATES

PATENT ASSIGNEE(S): NanoBioDynamcis, Berkeley, CA, UNITED STATES (U.S. corporation)

| | NUMBER | KIND | DATE |
|-----------------------|--|------|---------------|
| PATENT INFORMATION: | US 2005164264 | A1 | 20050728 |
| APPLICATION INFO.: | US 2005-33689 | A1 | 20050111 (11) |
| RELATED APPLN. INFO.: | Continuation of Ser. No. US 2001-927424, filed on 9 Aug 2001, GRANTED, Pat. No. US 6846638 | | |

| | NUMBER | DATE |
|-----------------------|--|-------------------|
| PRIORITY INFORMATION: | US 2000-224551P | 20000810 (60) <-- |
| DOCUMENT TYPE: | Utility | |
| FILE SEGMENT: | APPLICATION | |
| LEGAL REPRESENTATIVE: | TOWNSEND AND TOWNSEND AND CREW, LLP, TWO EMBARCADERO CENTER, EIGHTH FLOOR, SAN FRANCISCO, CA, 94111-3834, US | |
| NUMBER OF CLAIMS: | 67 | |
| EXEMPLARY CLAIM: | 1-102 | |
| NUMBER OF DRAWINGS: | 30 Drawing Page(s) | |
| LINE COUNT: | 5478 | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB **Methods**, compositions, kits, and apparatus are provided wherein the aminoacyl-tRNA synthetase system is used to analyze amino acids. The **method** allows very small devices for quantitative or semi-quantitative analysis of the amino acids in samples or in sequential or complete proteolytic digestions. The **methods** can be readily applied to the detection and/or quantitation of one or more primary amino acids by using cognate aminoacyl-tRNA synthetase and cognate tRNA. The basis of the **method** is that each of the 20 synthetases and/or a tRNA specific for a different amino acid is separated spatially or differentially labeled. The reactions catalyzed by all 20 synthetases may be monitored simultaneously, or nearly simultaneously, or in parallel. Each separately positioned synthetase or tRNA will signal its cognate amino acid. The synthetase reactions can be monitored using continuous spectroscopic assays. Alternatively, since elongation factor Tu:GTP (EF-Tu:GTP) specifically binds all AA-tRNAs, the aminoacylation reactions catalyzed by the synthetases can be monitored using ligand assays. Microarrays and microensors for amino acid analysis are provided. Additionally, amino acid analysis devices are integrated with protease digestions to produce miniaturized enzymatic sequenators capable of generating either N- or C-terminal sequence and composition data for a protein or peptide. The possibility of parallel processing of many samples in an automated manner is discussed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L24 ANSWER 7 OF 20 USPATFULL on STN

ACCESSION NUMBER: 2005:81469 USPATFULL
 TITLE: Proteome epitope tags and **methods** of use thereof in protein modification analysis
 INVENTOR(S): Lee, Frank D., Chestnut Hill, MA, UNITED STATES
 Meng, Xun, Newton, MA, UNITED STATES
 Afeyan, Noubar B., Lexington, MA, UNITED STATES
 PATENT ASSIGNEE(S): engeneOS, Inc., Waltham, MA (U.S. corporation)

| | NUMBER | KIND | DATE |
|-----------------------|---|------|---------------|
| PATENT INFORMATION: | US 2005069911 | A1 | 20050331 |
| APPLICATION INFO.: | US 2004-773032 | A1 | 20040205 (10) |
| RELATED APPLN. INFO.: | Continuation-in-part of Ser. No. US 2003-712425, filed on 13 Nov 2003, PENDING Continuation-in-part of Ser. No. US 2003-436549, filed on 12 May 2003, PENDING | | |

| | NUMBER | DATE | |
|-----------------------|-----------------|---------------|-----|
| PRIORITY INFORMATION: | US 2002-379626P | 20020510 (60) | <-- |
| | US 2002-393197P | 20020701 (60) | <-- |
| | US 2002-393233P | 20020701 (60) | <-- |
| | US 2002-393235P | 20020701 (60) | <-- |
| | US 2002-393211P | 20020701 (60) | <-- |
| | US 2002-393223P | 20020701 (60) | <-- |
| | US 2002-393280P | 20020701 (60) | <-- |
| | US 2002-393137P | 20020701 (60) | <-- |
| | US 2002-430948P | 20021204 (60) | |
| | US 2002-433319P | 20021213 (60) | |

DOCUMENT TYPE: Utility
 FILE SEGMENT: APPLICATION
 LEGAL REPRESENTATIVE: ROPES & GRAY LLP, ONE INTERNATIONAL PLACE, BOSTON, MA, 02110-2624
 NUMBER OF CLAIMS: 41
 EXEMPLARY CLAIM: 1
 NUMBER OF DRAWINGS: 24 Drawing Page(s)
 LINE COUNT: 12020

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Disclosed are **methods** for reliably detecting the presence of proteins, including proteins with various post-translational modifications (phosphorylation, glycosylation, methylation, acetylation, etc.) in a sample by the use of one or more capture agents that recognize and interact with recognition sequences uniquely characteristic of a protein or a set of proteins (Proteome Epitope Tags, or PETs) in the sample. Arrays comprising these capture agents or PETs are also provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L24 ANSWER 8 OF 20 USPATFULL on STN

ACCESSION NUMBER: 2005:30717 USPATFULL
 TITLE: **Method** for the biochemical detection of analytes
 INVENTOR(S): Rexhausen, Ulrich, Riedstr, GERMANY, FEDERAL REPUBLIC OF
 Wick, Manfred, Wachterstr, GERMANY, FEDERAL REPUBLIC OF

| | NUMBER | KIND | DATE |
|---------------------|---------------|------|----------|
| PATENT INFORMATION: | US 2005026148 | A1 | 20050203 |

APPLICATION INFO.: US 2004-478412 A1 20040527 (10)
 WO 2002-DE1875 20020523

| | NUMBER | DATE | |
|-----------------------|--|----------|-----|
| PRIORITY INFORMATION: | DE 2001-10127221 | 20010523 | <-- |
| | DE 2001-127220 | 20010523 | <-- |
| DOCUMENT TYPE: | Utility | | |
| FILE SEGMENT: | APPLICATION | | |
| LEGAL REPRESENTATIVE: | NATH & ASSOCIATES, 1030 15th STREET, NW, 6TH FLOOR, WASHINGTON, DC, 20005 | | |
| NUMBER OF CLAIMS: | 37 | | |
| EXEMPLARY CLAIM: | 1 | | |
| NUMBER OF DRAWINGS: | 9 Drawing Page(s) | | |
| LINE COUNT: | 1091 | | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to a **method** for detecting and/or quantifying analytes from a sample on an analysis carrier that has been formatted using a digital data code. Detection fields comprising the sensor elements required for the respective detection process, together with additional data structures in a defined digital format, are provided on the analysis carrier and combined to form sequences of formatted structures that can be interpreted as code words. To detect and quantify an analyte in a sample, the latter is applied to the analysis carrier and the formation of signal-generating elements is initiated at locations of molecular interaction. The localisation of signal-generating elements in the respective detection fields causes a formatted structure at this location to be replaced by another. This leads to the conversion of one code word into another within the predetermined quantity of valid code words. Both code words can be sequentially read and interpreted in the predetermined format. The statement concerning a successful or unsuccessful reaction is based on a comparison of the respective code words prior to and after detection. Detection takes place using a reading device, which is preferably constructed from components of the consumer goods industry.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L24 ANSWER 9 OF 20 USPATFULL on STN

ACCESSION NUMBER: 2004:233309 USPATFULL
 TITLE: Proteome epitope tags and **methods** of use
 thereof in protein modification analysis
 INVENTOR(S): Lee, Frank D., Chestnut Hill, MA, UNITED STATES
 Meng, Xun, Newton, MA, UNITED STATES
 Livingston, David, Barrington, RI, UNITED STATES
 PATENT ASSIGNEE(S): engeneOS, Inc., Waltham, MA (U.S. corporation)

| | NUMBER | KIND | DATE |
|-----------------------|---|------|---------------|
| PATENT INFORMATION: | US 2004180380 | A1 | 20040916 |
| APPLICATION INFO.: | US 2003-712425 | A1 | 20031113 (10) |
| RELATED APPLN. INFO.: | Continuation-in-part of Ser. No. US 2003-436549, filed on 12 May 2003, PENDING | | |

| | NUMBER | DATE | |
|-----------------------|-----------------|----------|----------|
| PRIORITY INFORMATION: | US 2002-379626P | 20020510 | (60) <-- |
| | US 2002-393137P | 20020701 | (60) <-- |
| | US 2002-393233P | 20020701 | (60) <-- |
| | US 2002-393235P | 20020701 | (60) <-- |

| | | |
|-----------------|---------------|-----|
| US 2002-393211P | 20020701 (60) | <-- |
| US 2002-393223P | 20020701 (60) | <-- |
| US 2002-393280P | 20020701 (60) | <-- |
| US 2002-393197P | 20020701 (60) | <-- |
| US 2002-430948P | 20021204 (60) | |
| US 2002-433319P | 20021213 (60) | |

DOCUMENT TYPE: Utility
 FILE SEGMENT: APPLICATION
 LEGAL REPRESENTATIVE: ROPES & GRAY LLP, ONE INTERNATIONAL PLACE, BOSTON, MA,
 02110-2624

NUMBER OF CLAIMS: 125
 EXEMPLARY CLAIM: 1
 NUMBER OF DRAWINGS: 24 Drawing Page(s)
 LINE COUNT: 11815

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Disclosed are **methods** for reliably detecting the presence of proteins, especially proteins with various post-translational modifications (phosphorylation, glycosylation, methylation, acetylation, etc.) in a sample by the use of one or more capture agents that recognize and interact with recognition sequences uniquely characteristic of a set of proteins (Proteome Epitope Tags, or PETs) in the sample. Arrays comprising these capture agents or PETs are also provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L24 ANSWER 10 OF 20 USPATFULL on STN

ACCESSION NUMBER: 2004:171886 USPATFULL

TITLE: **Methods** for detection of genetic alterations associated with cancer

INVENTOR(S): Fortina, Paolo, Philadelphia, PA, UNITED STATES
 Maris, John M., Moorestown, NJ, UNITED STATES
 Gelfand, Craig A., Jackson, NJ, UNITED STATES

| | NUMBER | KIND | DATE |
|---------------------|----------------|------|---------------|
| PATENT INFORMATION: | US 2004132047 | A1 | 20040708 |
| APPLICATION INFO.: | US 2003-606133 | A1 | 20030625 (10) |

| | NUMBER | DATE |
|-----------------------|--|-------------------|
| PRIORITY INFORMATION: | US 2002-391515P | 20020625 (60) <-- |
| DOCUMENT TYPE: | Utility | |
| FILE SEGMENT: | APPLICATION | |
| LEGAL REPRESENTATIVE: | DANN, DORFMAN, HERRELL & SKILLMAN, 1601 MARKET STREET, SUITE 2400, PHILADELPHIA, PA, 19103-2307 | |
| NUMBER OF CLAIMS: | 8 | |
| EXEMPLARY CLAIM: | 1 | |
| NUMBER OF DRAWINGS: | 18 Drawing Page(s) | |
| LINE COUNT: | 2268 | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB **Methods** are provided for assessing the presence or absence of genetic alterations in a defined polynucleotide region as a means to diagnose and manage malignant disease.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L24 ANSWER 11 OF 20 USPATFULL on STN

ACCESSION NUMBER: 2004:126981 USPATFULL

TITLE: Manipulation of microparticles in microfluidic systems

INVENTOR(S): Burd Mehta, Tammy, San Jose, CA, UNITED STATES
 Kopf-Sill, Anne R., Portola Valley, CA, UNITED STATES
 Parce, J. Wallace, Palo Alto, CA, UNITED STATES
 Chow, Andrea W., Los Altos, CA, UNITED STATES
 Bousse, Luc J., Los Altos, CA, UNITED STATES
 Knapp, Michael R., Redwood City, CA, UNITED STATES
 Nikiforov, Theo T., San Jose, CA, UNITED STATES
 Gallagher, Steve, Palo Alto, CA, UNITED STATES
 PATENT ASSIGNEE(S): Caliper Technologies Corp., Mountain View, CA (U.S. corporation)

| | NUMBER | KIND | DATE |
|-----------------------|---|------|---------------|
| PATENT INFORMATION: | US 2004096960 | A1 | 20040520 |
| APPLICATION INFO.: | US 2003-606201 | A1 | 20030625 (10) |
| RELATED APPLN. INFO.: | Continuation of Ser. No. US 2000-510626, filed on 22 Feb 2000, GRANTED, Pat. No. US 6632655 | | |

| | NUMBER | DATE | |
|--|---|---------------|-----|
| PRIORITY INFORMATION: | US 1999-121223P | 19990223 (60) | <-- |
| | US 1999-127825P | 19990405 (60) | <-- |
| | US 1999-128643P | 19990409 (60) | <-- |
| DOCUMENT TYPE: | Utility | | |
| FILE SEGMENT: | APPLICATION | | |
| LEGAL REPRESENTATIVE: | CALIPER LIFE SCIENCES, INC., 605 FAIRCHILD DRIVE, MOUNTAIN VIEW, CA, 94043-2234 | | |
| NUMBER OF CLAIMS: | 1 | | |
| EXEMPLARY CLAIM: | 1 | | |
| NUMBER OF DRAWINGS: | 19 Drawing Page(s) | | |
| LINE COUNT: | 4120 | | |
| CAS INDEXING IS AVAILABLE FOR THIS PATENT. | | | |
| AB | Arrays of flowable or fixed particle sets are used in microfluidic systems for performing assays and modifying hydrodynamic flow. Also provided are assays utilizing flowable or fixed particle sets within a microfluidic system, as well as kits, apparatus and integrated systems comprising arrays and array members. | | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L24 ANSWER 12 OF 20 USPATFULL on STN
 ACCESSION NUMBER: 2004:82263 USPATFULL
 TITLE: **Methods** of screening agents for activity using teleosts
 INVENTOR(S): Serbedzija, George N., Woburn, MA, UNITED STATES
 Semino, Carlos, Cambridge, MA, UNITED STATES
 Frost, Deanna M., Seattle, WA, UNITED STATES
 PATENT ASSIGNEE(S): Phylionix Pharmaceuticals, Inc., Cambridge, MA, 02139 (U.S. corporation)

| | NUMBER | KIND | DATE |
|-----------------------|--|------|---------------|
| PATENT INFORMATION: | US 2004062712 | A1 | 20040401 |
| APPLICATION INFO.: | US 2003-678765 | A1 | 20031002 (10) |
| RELATED APPLN. INFO.: | Continuation of Ser. No. US 2000-645432, filed on 23 Aug 2000, GRANTED, Pat. No. US 6656449 Continuation-in-part of Ser. No. US 1999-255397, filed on 22 Feb 1999, GRANTED, Pat. No. US 6299858 | | |

| NUMBER | DATE |
|--------|------|
|--------|------|

 PRIORITY INFORMATION: US 1998-100950P 19980918 (60) <--
 US 1998-75783P 19980223 (60) <--
 DOCUMENT TYPE: Utility
 FILE SEGMENT: APPLICATION
 LEGAL REPRESENTATIVE: TOWNSEND AND TOWNSEND AND CREW, LLP, TWO EMBARCADERO
 CENTER, EIGHTH FLOOR, SAN FRANCISCO, CA, 94111-3834
 NUMBER OF CLAIMS: 30
 EXEMPLARY CLAIM: 1
 NUMBER OF DRAWINGS: 19 Drawing Page(s)
 LINE COUNT: 4128

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides **methods** of screening an agent for activity using teleosts. **Methods** of screening an agent for angiogenesis activity, toxic activity and an effect cell death activity in teleosts are provided. The invention further provides high throughput **methods** of screening agents in multi-well plates.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L24 ANSWER 13 OF 20 USPATFULL on STN

ACCESSION NUMBER: 2004:50877 USPATFULL
 TITLE: Unique recognition sequences and **methods** of use thereof in protein analysis
 INVENTOR(S): Lee, Frank D., Chestnut Hill, MA, UNITED STATES
 Meng, Xun, Newton, MA, UNITED STATES
 Chan, John W., Acton, MA, UNITED STATES
 Zhang, Shengsheng, Quincy, MA, UNITED STATES
 Benkovic, Stephen J., State College, PA, UNITED STATES
 PATENT ASSIGNEE(S): engeneOS, Inc., Waltham, MA, 02451 (U.S. corporation)

| | NUMBER | KIND | DATE |
|---------------------|----------------|------|---------------|
| PATENT INFORMATION: | US 2004038307 | A1 | 20040226 |
| APPLICATION INFO.: | US 2003-436549 | A1 | 20030512 (10) |

| | NUMBER | DATE |
|-----------------------|---|---------------|
| PRIORITY INFORMATION: | US 2002-379626P | 20020510 (60) |
| | US 2002-393137P | 20020701 (60) |
| | US 2002-393233P | 20020701 (60) |
| | US 2002-393235P | 20020701 (60) |
| | US 2002-393211P | 20020701 (60) |
| | US 2002-393223P | 20020701 (60) |
| | US 2002-393280P | 20020701 (60) |
| | US 2002-393197P | 20020701 (60) |
| | US 2002-430948P | 20021204 (60) |
| | US 2002-433319P | 20021213 (60) |
| DOCUMENT TYPE: | Utility | |
| FILE SEGMENT: | APPLICATION | |
| LEGAL REPRESENTATIVE: | ROPES & GRAY LLP, ONE INTERNATIONAL PLACE, BOSTON, MA, 02110-2624 | |
| NUMBER OF CLAIMS: | 115 | |
| EXEMPLARY CLAIM: | 1 | |
| NUMBER OF DRAWINGS: | 4 Drawing Page(s) | |
| LINE COUNT: | 5402 | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Disclosed are **methods** for reliably detecting the presence of proteins in a sample by the use of capture agents that recognize and interact with recognition sequences uniquely characteristic of a set of

proteins in the sample. Arrays comprising these capture agents are also provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L24 ANSWER 14 OF 20 USPATFULL on STN

ACCESSION NUMBER: 2004:18762 USPATFULL

TITLE: Therapeutics and diagnostics for disorders of erythropoiesis

INVENTOR(S): Brissette, William H., Stonington, CT, UNITED STATES
Neote, Kuldeep S., East Lyme, CT, UNITED STATES
Zagouras, Panayiotis, Old Saybrook, CT, UNITED STATES
Zenke, Martin, Schoenow, GERMANY, FEDERAL REPUBLIC OF
Lemke, Britt, Berlin, GERMANY, FEDERAL REPUBLIC OF
Hacker, Christine, Berlin, GERMANY, FEDERAL REPUBLIC OF

| | NUMBER | KIND | DATE |
|---------------------|----------------|------|---------------|
| PATENT INFORMATION: | US 2004014064 | A1 | 20040122 |
| APPLICATION INFO.: | US 2002-285366 | A1 | 20021031 (10) |

| | NUMBER | DATE | |
|-----------------------|--|---------------|-----|
| PRIORITY INFORMATION: | US 2001-335048P | 20011031 (60) | <-- |
| | US 2001-335183P | 20011102 (60) | <-- |
| DOCUMENT TYPE: | Utility | | |
| FILE SEGMENT: | APPLICATION | | |
| LEGAL REPRESENTATIVE: | FOLEY HOAG, LLP, PATENT GROUP, WORLD TRADE CENTER WEST, 155 SEAPORT BLVD, BOSTON, MA, 02110 | | |
| NUMBER OF CLAIMS: | 32 | | |
| EXEMPLARY CLAIM: | 1 | | |
| NUMBER OF DRAWINGS: | 231 Drawing Page(s) | | |
| LINE COUNT: | 3854 | | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides novel panels of molecular targets that regulate erythropoiesis. The novel panels of the invention may be used, for example, in therapeutic intervention, therapeutic agent screening, and in diagnostic **methods** for diseases and/or disorders of erythropoiesis.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L24 ANSWER 15 OF 20 USPATFULL on STN

ACCESSION NUMBER: 2003:314457 USPATFULL

TITLE: **Methods** of screening agents for activity using teleosts

INVENTOR(S): Serbedzija, George, Woburn, MA, United States
Seng, Wen Lin, Westborough, MA, United States
McGrath, Patricia, Cambridge, MA, United States

PATENT ASSIGNEE(S): Phylonix Pharmaceuticals, Inc., Cambridge, MA, United States (U.S. corporation)

| | NUMBER | KIND | DATE |
|-----------------------|---|------|--------------|
| PATENT INFORMATION: | US 6656449 | B1 | 20031202 |
| APPLICATION INFO.: | US 2000-645432 | | 20000823 (9) |
| RELATED APPLN. INFO.: | Continuation-in-part of Ser. No. US 1999-255397, filed on 22 Feb 1999 | | |

| NUMBER | DATE |
|--------|------|
|--------|------|

PRIORITY INFORMATION: US 1998-100950P 19980918 (60) <--
 US 1998-75783P 19980223 (60) <--

DOCUMENT TYPE: Utility
 FILE SEGMENT: GRANTED
 PRIMARY EXAMINER: Shukla, Ram
 LEGAL REPRESENTATIVE: Townsend and Townsend and Crew LLP
 NUMBER OF CLAIMS: 31
 EXEMPLARY CLAIM: 1
 NUMBER OF DRAWINGS: 29 Drawing Figure(s); 19 Drawing Page(s)
 LINE COUNT: 4093

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides **methods** of screening an agent for activity using teleosts. **Methods** of screening an agent for angiogenesis activity, toxic activity and an effect cell death activity in teleosts are provided. The invention further provides high throughput **methods** of screening agents in multi-well plates.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L24 ANSWER 16 OF 20 USPATFULL on STN

ACCESSION NUMBER: 2003:312171 USPATFULL
 TITLE: Lung cancer therapeutics and diagnostics
 INVENTOR(S): Beebe, Jean S., Salem, CT, UNITED STATES
 Coleman, Kevin G., Old Lyme, CT, UNITED STATES
 Dmitrovsky, Ethan, Hanover, NH, UNITED STATES
 Turi, Thomas G., Old Saybrook, CT, UNITED STATES

| | NUMBER | KIND | DATE |
|---------------------|----------------|------|---------------|
| PATENT INFORMATION: | US 2003219768 | A1 | 20031127 |
| APPLICATION INFO.: | US 2002-286989 | A1 | 20021102 (10) |

| | NUMBER | DATE |
|-----------------------|--|-------------------|
| PRIORITY INFORMATION: | US 2001-336024P | 20011102 (60) <-- |
| | US 2001-335317P | 20011102 (60) <-- |
| | US 2001-336298P | 20011102 (60) <-- |
| DOCUMENT TYPE: | Utility | |
| FILE SEGMENT: | APPLICATION | |
| LEGAL REPRESENTATIVE: | FOLEY HOAG, LLP, PATENT GROUP, WORLD TRADE CENTER WEST, 155 SEAPORT BLVD, BOSTON, MA, 02110 | |
| NUMBER OF CLAIMS: | 142 | |
| EXEMPLARY CLAIM: | 1 | |
| NUMBER OF DRAWINGS: | 20 Drawing Page(s) | |
| LINE COUNT: | 4409 | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides genes that are differentially expressed during neoplasia. These genes and gene products comprise panels for use in screening candidate agents for therapeutic intervention in lung cancers, and for use in therapeutic, prognostic and diagnostic **methods** and compositions. Therapeutic agents are also provided by the invention. Diagnostic compositions include compositions comprising detection agents for detecting one or more genes that have been shown to be up-or down-regulated in pathogenesis of lung cancer. Exemplary detection agents include nucleic acid **probes**, which can be in solution or attached to a solid surface, e.g., in the form of a microarray. The invention also provides computer-readable media comprising values of expression of one or more genes that are modulated in lung cancer.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L24 ANSWER 17 OF 20 USPATFULL on STN

ACCESSION NUMBER: 2003:244506 USPATFULL
TITLE: Multiplex analysis using membrane-bound sensitizers
INVENTOR(S): Singh, Sharat, San Jose, CA, UNITED STATES
Chan-Hui, Po-Ying, Oakland, CA, UNITED STATES

| | NUMBER | KIND | DATE |
|---------------------|----------------|------|---------------|
| PATENT INFORMATION: | US 2003170915 | A1 | 20030911 |
| | US 6949347 | B2 | 20050927 |
| APPLICATION INFO.: | US 2003-379965 | A1 | 20030304 (10) |

| | NUMBER | DATE |
|-----------------------|--|-------------------|
| PRIORITY INFORMATION: | US 2002-361975P | 20020305 (60) <-- |
| | US 2003-440838P | 20030117 (60) |
| DOCUMENT TYPE: | Utility | |
| FILE SEGMENT: | APPLICATION | |
| LEGAL REPRESENTATIVE: | ACLARA BIOSCIENCES, INC., 1288 PEAR AVENUE, MOUNTAIN VIEW, CA, 94043 | |
| NUMBER OF CLAIMS: | 20 | |
| EXEMPLARY CLAIM: | 1 | |
| NUMBER OF DRAWINGS: | 50 Drawing Page(s) | |
| LINE COUNT: | 3126 | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention is directed to **methods** and compositions for determining the presence, absence, and/or amounts of one or more membrane-associated analytes in a sample. In accordance with the invention, binding compounds derivatized with releasable molecular tags specifically bind to selected membrane-associated analytes, after which the molecular tags are released upon activation of cleavage moieties, or sensitizers, anchored in the same membrane as the membrane-associated analytes. The released molecular tags are then identified by their distinct separation and detection characteristics.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L24 ANSWER 18 OF 20 USPATFULL on STN

ACCESSION NUMBER: 2003:146195 USPATFULL
TITLE: Single target counting assays using semiconductor nanocrystals
INVENTOR(S): Empedocles, Stephen A., Mountain View, CA, UNITED STATES
Watson, Andrew R., Belmont, CA, UNITED STATES

| | NUMBER | KIND | DATE |
|---------------------|----------------|------|--------------|
| PATENT INFORMATION: | US 2003099940 | A1 | 20030529 |
| APPLICATION INFO.: | US 2001-784866 | A1 | 20010215 (9) |

| | NUMBER | DATE |
|-----------------------|--|-------------------|
| PRIORITY INFORMATION: | US 2000-182844P | 20000216 (60) <-- |
| DOCUMENT TYPE: | Utility | |
| FILE SEGMENT: | APPLICATION | |
| LEGAL REPRESENTATIVE: | Jeffrey S. Mann, Esq., Townsend and Townsend and Crew LLP, 8th Floor, Two Embarcadero Center, San Francisco, | |

CA, 94111-3834
 NUMBER OF CLAIMS: 39
 EXEMPLARY CLAIM: 1
 NUMBER OF DRAWINGS: 12 Drawing Page(s)
 LINE COUNT: 2710

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides assays that allow for the detection of a single copy of a target of interest. The target species is either directly or indirectly labeled with a semiconductor nanocrystal, "quantum dot." The bright and tunable **fluorescence** of the quantum dot is readily detected using **methods** described herein. Also provided are assays that are based on the colocalization of two or more differently colored quantum dots on a single target species, which provides superbly sensitive assays in which the decrease in assay sensitivity caused by non-specific binding of assay mixture components to the assay substrate is minimized. The assays are of use to detect target species including, but are not limited to, nucleic acids, polypeptides, small organic bioactive agents (e.g., drugs, agents of war, herbicides, pesticides, etc.) and organisms.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L24 ANSWER 19 OF 20 USPATFULL on STN

ACCESSION NUMBER: 2002:112538 USPATFULL

TITLE: **Method** and system for rapid biomolecular recognition of amino acids and protein sequencing
 INVENTOR(S): Shipwash, Edward, San Francisco, CA, UNITED STATES

| | NUMBER | KIND | DATE | |
|---------------------|----------------|------|----------|-----|
| PATENT INFORMATION: | US 2002058273 | A1 | 20020516 | <-- |
| | US 6846638 | B2 | 20050125 | |
| APPLICATION INFO.: | US 2001-927424 | A1 | 20010809 | (9) |

| | NUMBER | DATE | |
|-----------------------|--|---------------|-----|
| PRIORITY INFORMATION: | US 2000-224551P | 20000810 (60) | <-- |
| DOCUMENT TYPE: | Utility | | |
| FILE SEGMENT: | APPLICATION | | |
| LEGAL REPRESENTATIVE: | TOWNSEND AND TOWNSEND AND CREW, LLP, TWO EMBARCADERO CENTER, EIGHTH FLOOR, SAN FRANCISCO, CA, 94111-3834 | | |
| NUMBER OF CLAIMS: | 102 | | |
| EXEMPLARY CLAIM: | 1 | | |
| NUMBER OF DRAWINGS: | 30 Drawing Page(s) | | |
| LINE COUNT: | 5577 | | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB **Methods**, compositions, kits, and apparatus are provided wherein the aminoacyl-tRNA synthetase system is used to analyze amino acids. The **method** allows very small devices for quantitative or semi-quantitative analysis of the amino acids in samples or in sequential or complete proteolytic digestions. The **methods** can be readily applied to the detection and/or quantitation of one or more primary amino acids by using cognate aminoacyl-tRNA synthetase and cognate tRNA. The basis of the **method** is that each of the 20 synthetases and/or a tRNA specific for a different amino acid is separated spatially or differentially labeled. The reactions catalyzed by all 20 synthetases may be monitored simultaneously, or nearly simultaneously, or in parallel. Each separately positioned synthetase or tRNA will signal its cognate amino acid. The synthetase reactions can be monitored using continuous spectroscopic assays. Alternatively, since

elongation factor Tu:GTP (EF-Tu:GTP) specifically binds all AA-tRNAs, the aminoacylation reactions catalyzed by the synthetases can be monitored using ligand assays. Microarrays and microsensors for amino acid analysis are provided. Additionally, amino acid analysis devices are integrated with protease digestions to produce miniaturized enzymatic sequenators capable of generating either N- or C-terminal sequence and composition data for a protein or peptide. The possibility of parallel processing of many samples in an automated manner is discussed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L24 ANSWER 20 OF 20 USPATFULL on STN

ACCESSION NUMBER: 2002:48266 USPATFULL

TITLE: Single target counting assays using semiconductor nanocrystals

INVENTOR(S): Empedocles, Stephen Alexander, Mountain View, CA, UNITED STATES

Watson, Andrew R., Belmont, CA, UNITED STATES

Phillips, Vince, Sunnyvale, CA, UNITED STATES

Wong, Edith, Danville, CA, UNITED STATES

PATENT ASSIGNEE(S): Quantum Dot Corporation, Hayward, CA, UNITED STATES, 94545 (U.S. corporation)

| | NUMBER | KIND | DATE | |
|-----------------------|--|------|----------|-----|
| PATENT INFORMATION: | US 2002028457 | A1 | 20020307 | <-- |
| APPLICATION INFO.: | US 2001-882193 | A1 | 20010613 | (9) |
| RELATED APPLN. INFO.: | Continuation-in-part of Ser. No. US 2001-784866, filed on 15 Feb 2001, PENDING | | | |

| | NUMBER | DATE | |
|-----------------------|--|----------|----------|
| PRIORITY INFORMATION: | US 2000-182844P | 20000216 | (60) <-- |
| | US 2000-211054P | 20000613 | (60) <-- |
| DOCUMENT TYPE: | Utility | | |
| FILE SEGMENT: | APPLICATION | | |
| LEGAL REPRESENTATIVE: | TOWNSEND AND TOWNSEND AND CREW, LLP, TWO EMBARCADERO CENTER, EIGHTH FLOOR, SAN FRANCISCO, CA, 94111-3834 | | |
| NUMBER OF CLAIMS: | 18 | | |
| EXEMPLARY CLAIM: | 1 | | |
| NUMBER OF DRAWINGS: | 15 Drawing Page(s) | | |
| LINE COUNT: | 2844 | | |

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides assays that allow for the detection of a single copy of a target of interest. The target species is either directly or indirectly labeled with a semiconductor nanocrystal, "quantum dot." The bright and tunable **fluorescence** of the quantum dot is readily detected using **methods** described herein. Also provided are assays that are based on the colocalization of two or more differently colored quantum dots on a single target species, which provides superbly sensitive assays in which the decrease in assay sensitivity caused by non-specific binding of assay mixture components to the assay substrate is minimized. The assays are of use to detect target species including, but are not limited to, nucleic acids, polypeptides, small organic bioactive agents (e.g., drugs, agents of war, herbicides, pesticides, etc.) and organisms.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> d his ful

(FILE 'HOME' ENTERED AT 14:36:05 ON 11 AUG 2006)

FILE 'HCAPLUS' ENTERED AT 14:37:38 ON 11 AUG 2006

E MCCORMICK MARK/AU
L1 28 SEA ABB=ON "MCCORMICK MARK"/AU
E BARRETT GARY/AU
L2 14 SEA ABB=ON "BARRETT GARY"/AU
E GREEN ROLAND/AU
L3 23 SEA ABB=ON "GREEN ROLAND"/AU
E SINGH JAZ/AU
L4 3 SEA ABB=ON "SINGH JAZ"/AU
L5 1 SEA ABB=ON L1 AND L2 AND L3 AND L4
L6 ANALYZE L5 1-1 CT : 15 TERMS

FILE 'HCAPLUS' ENTERED AT 14:46:24 ON 11 AUG 2006

L7 31379 SEA ABB=ON MICROARRAY TECHNOLOGY+ALL
L8 7 SEA ABB=ON L7 AND ?SUBARRAY?
L9 242 SEA ABB=ON L7 AND (?OPTICAL?(W)?DETECT? OR ?MACHINE?(W)?READ?)
L10 248 SEA ABB=ON L8 OR L9
L11 75 SEA ABB=ON L10 AND (?PROBE? OR ?HAPTEN?)
L12 49 SEA ABB=ON L11 AND (?FLUORESC? OR ?ILLUMIN?)
L13 1 SEA ABB=ON L12 AND ?VISUAL?(W)?ALIGN?
L14 35 SEA ABB=ON L12 AND ?METHOD?
L15 35 SEA ABB=ON L13 OR L14

FILE 'MEDLINE, BIOSIS, EMBASE, JAPIO, JICST-EPLUS' ENTERED AT 14:48:47 ON 11 AUG 2006

L16 2 SEA ABB=ON L15
L17 1 DUP REMOV L16 (1 DUPLICATE REMOVED)

1 cit from db's

FILE 'HCAPLUS' ENTERED AT 14:50:59 ON 11 AUG 2006

L18 26 SEA ABB=ON L15 AND (PRD<20020930 OR PD<20020930)

26 cit from CA Plus

FILE 'USPATFULL' ENTERED AT 14:51:14 ON 11 AUG 2006

L19 95 SEA ABB=ON L15 AND (PRD<20020930 OR PD<20020930)
L20 3 SEA ABB=ON L19 AND ?VISUAL?(3A)?ALIGN?

FILE 'HCAPLUS' ENTERED AT 14:53:40 ON 11 AUG 2006

L21 0 SEA ABB=ON L18 AND ?BIOTINYLAT?

FILE 'USPATFULL' ENTERED AT 14:53:58 ON 11 AUG 2006

L22 44 SEA ABB=ON L19 AND ?BIOTINYLAT?
L23 46 SEA ABB=ON L20 OR L22
L24 20 SEA ABB=ON L23 AND ?LIGHT?(W)?SCATTER?

20 cit from US Patfull

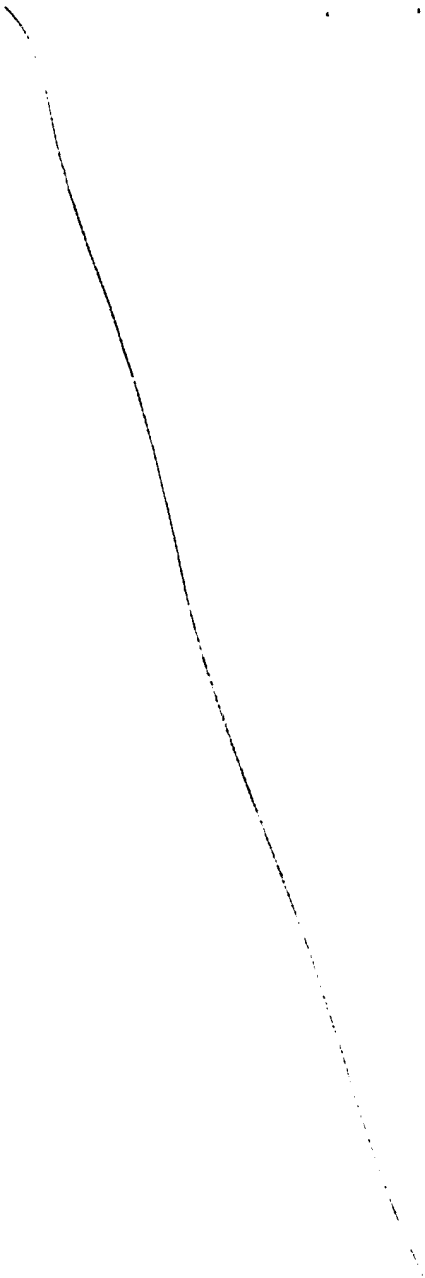
FILE 'HCAPLUS' ENTERED AT 14:55:33 ON 11 AUG 2006

L25 0 SEA ABB=ON L18 AND ?BIOTINYLAT?

FILE HOME

FILE HCAPLUS

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FILE COVERS 1907 - 11 Aug 2006 VOL 145 ISS 8
FILE LAST UPDATED: 10 Aug 2006 (20060810/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE MEDLINE

FILE LAST UPDATED: 10 Aug 2006 (20060810/UP). FILE COVERS 1950 TO DATE.

On December 11, 2005, the 2006 MeSH terms were loaded.

The MEDLINE reload for 2006 is now (26 Feb.) available. For details on the 2006 reload, enter HELP RLOAD at an arrow prompt (=>).
See also:

<http://www.nlm.nih.gov/mesh/>
http://www.nlm.nih.gov/pubs/techbull/nd04/nd04_mesh.html
http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_med_data_changes.html
http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_2006_MeSH.html

OLDMEDLINE is covered back to 1950.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2006 vocabulary.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE BIOSIS

FILE COVERS 1969 TO DATE.

CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 9 August 2006 (20060809/ED)

FILE EMBASE

FILE COVERS 1974 TO 11 Aug 2006 (20060811/ED)

EMBASE has been reloaded. Enter HELP RLOAD for details.

EMBASE is now updated daily. SDI frequency remains weekly (default) and biweekly.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE JAPIO

FILE LAST UPDATED: 3 APR 2006 <20060403/UP>
FILE COVERS APRIL 1973 TO DECEMBER 22, 2005

>>> GRAPHIC IMAGES AVAILABLE <<<

>>> NEW IPC8 DATA AND FUNCTIONALITY NOT YET AVAILABLE IN THIS FILE.

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USE IPC7 FORMAT FOR SEARCHING THE IPC. WATCH THIS SPACE FOR FURTHER
DEVELOPMENTS AND SEE OUR NEWS SECTION FOR FURTHER INFORMATION
ABOUT THE IPC REFORM <<<

FILE JICST-EPLUS

FILE COVERS 1985 TO 7 AUG 2006 (20060807/ED)

THE JICST-EPLUS FILE HAS BEEN RELOADED TO REFLECT THE 1999 CONTROLLED
TERM (/CT) THESAURUS RELOAD.

FILE USPATFULL

FILE COVERS 1971 TO PATENT PUBLICATION DATE: 10 Aug 2006 (20060810/PD)

FILE LAST UPDATED: 10 Aug 2006 (20060810/ED)

HIGHEST GRANTED PATENT NUMBER: US7089595

HIGHEST APPLICATION PUBLICATION NUMBER: US2006179536

CA INDEXING IS CURRENT THROUGH 8 Aug 2006 (20060808/UPCA)

ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 10 Aug 2006 (20060810/PD)

REVISED CLASS FIELDS (/NCL) LAST RELOADED: Apr 2006

USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Apr 2006

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L5 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:473232 HCAPLUS

DOCUMENT NUMBER: 141:20082

TITLE: Microarrays with visual alignment marks, in situ synthesis of haptenylated border regions by photopatterning a haptenylated compound

INVENTOR(S): **McCormick, Mark; Barrett, Gary; Green, Roland; Singh, Jaz**

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 7 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|------------|
| US 2004110212 | A1 | 20040610 | US 2003-675329 | 20030930 |
| PRIORITY APPLN. INFO.: | | | US 2002-415119P | P 20020930 |

AB The present invention provides a method for the in situ synthesis of haptenylated border regions that provide a visual marker for aligning microarrays, and their development by a variety of either chemical or enzymic methods. The invention also includes microarrays containing the visible borders. The visible borders allow for simple, direct determination of the

grid

location when pipetting manually, and provide an effective light-scattering marker for determination of grid location by robotic-optical methods. The visible borders are provided by photopatterning a haptenylated compound onto the microarray in the interstitial regions surrounding the grid elements then rendering visible the haptenylated borders via the use of fluorescent, reflective, refractive or highly contrasting compds. The compds. may be deposited via one of the methods common to microarray detection and Western blot anal. wherein a binding moiety (e.g. streptavidin) specific to the hapten (e.g. biotin) is supplied in a form coupled to a fluorescent or enzymic reporter mol. The reporter mol. may include catalytic antibodies, fluorophore-labeled microparticles, alkaline phosphatases, and horseradish peroxidases. The border regions are synthesized by photopatterning the haptenylated phosphoramidite in the region between the grid elements either before, during or at the conclusion of microarray synthesis. In one embodiment, the visible border is synthesized in situ by photopatterning a haptenylated compound, such as biotin phosphoramidite, in the border region and then coupling the biotinylated compound to a secondary compound, such as streptavidin and a reporter mol., to render the border visible. A suitable embodiment of the invention is where the entire array is coupled with a NPPOC [2-(2-nitrophenyl)propoxycarbonyl] to provide a patternable first layer. The subarrays are synthesized and the areas to be used for visible borders are reserved (protected from light). The last step in synthesis is the photodeprotection of the areas where visible borders are desired and coupling of biotin phosphoramidite. This all occurs on the MAS instrument so the borders can be placed precisely where desired (i.e., there is flexibility in the placement of the alignment mark within the array). The array is removed from the instrument and deprotected (since the biotin and the array are not functional until deprotected.). The biotin borders are then rendered visible or detectable through streptavidin conjugated to a fluorophore, colloidal gold, or other detectable compound

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IC ICM B05D003-00
ICS C12Q001-68; G01N033-53; C12M001-34
INCL 435006000; 435007500; 435287200; 427002110
CC 9-1 (Biochemical Methods)
ST microarray vision alignment mark haptenylated border photopatterning
IT Protective groups
(NPPOC (2-(2-nitrophenyl)propoxycarbonyl); microarrays with visual alignment marks, in situ synthesis of haptenylated border regions by photopatterning a haptenylated compound)
IT Antibodies and Immunoglobulins
RL: NUU (Other use, unclassified); USES (Uses)
(catalytic, reporter conjugated to streptavidin; microarrays with visual alignment marks, in situ synthesis of haptenylated border regions by photopatterning a haptenylated compound)
IT Haptens
RL: NUU (Other use, unclassified); USES (Uses)
(conjugates, with phosphoramidites; microarrays with visual alignment marks, in situ synthesis of haptenylated border regions by photopatterning a haptenylated compound)
IT Robotics
(determination of grid location by; microarrays with visual alignment marks, in situ synthesis of haptenylated border regions by photopatterning a haptenylated compound)
IT Microparticles
(fluorophore-labeled, reporter conjugated to streptavidin; microarrays with visual alignment marks, in situ synthesis of haptenylated border regions by photopatterning a haptenylated compound)
IT Light scattering
(marker; microarrays with visual alignment marks, in situ synthesis of haptenylated border regions by photopatterning a haptenylated compound)
IT Colloids
(metal suspension, reporter conjugated to streptavidin; microarrays with visual alignment marks, in situ synthesis of haptenylated border regions by photopatterning a haptenylated compound)
IT Biotinylation
DNA microarray technology
Microarray technology
Protein microarray technology
(microarrays with visual alignment marks, in situ synthesis of haptenylated border regions by photopatterning a haptenylated compound)
IT Fluorescent indicators
(microparticles labeled with, reporter conjugated to streptavidin; microarrays with visual alignment marks, in situ synthesis of haptenylated border regions by photopatterning a haptenylated compound)
IT Dyes
(reporter conjugated to streptavidin; microarrays with visual alignment marks, in situ synthesis of haptenylated border regions by photopatterning a haptenylated compound)
IT Semiconductor lasers
(scanning, to detect the visible or machine readable alignment mark; microarrays with visual alignment marks, in situ synthesis of haptenylated border regions by photopatterning a haptenylated compound)
IT Optical detectors
(to detect the visible or machine readable alignment mark; microarrays with visual alignment marks, in situ synthesis of haptenylated border regions by photopatterning a haptenylated compound)
IT 51-28-5, DNP, uses 58-85-5, Biotin
RL: NUU (Other use, unclassified); USES (Uses)
(hapten; microarrays with visual alignment marks, in situ synthesis of

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- haptenylated border regions by photopatterning a haptenylated compound)
- IT 9003-99-0, Peroxidase .
RL: NUU (Other use, unclassified); USES (Uses)
(horseradish, reporter conjugated to streptavidin; microarrays with visual alignment marks, in situ synthesis of haptenylated border regions by photopatterning a haptenylated compound)
- IT 9013-20-1D, Streptavidin, conjugated to a reporter mol., as illuminating compound for alignment mark
RL: NUU (Other use, unclassified); USES (Uses)
(microarrays with visual alignment marks, in situ synthesis of haptenylated border regions by photopatterning a haptenylated compound)
- IT 9001-78-9, Alkaline phosphatase
RL: NUU (Other use, unclassified); USES (Uses)
(reporter conjugated to streptavidin; microarrays with visual alignment marks, in situ synthesis of haptenylated border regions by photopatterning a haptenylated compound)
- IT 135137-87-0
RL: NUU (Other use, unclassified); USES (Uses)
(used to deliver a hapten onto an array; microarrays with visual alignment marks, in situ synthesis of haptenylated border regions by photopatterning a haptenylated compound)

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